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ORIGINAL ARTICLES.

GONORRHEAL ARTHRITIS.

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IN 1781 the extended article of Swedaiur called the attention of the medical profession to the fact that a peculiar form of rheumatism often existed during cases of urethral discharge, but many years passed before it was recognized that the gonorrhea should be looked upon as the cause of the inflammation in the joint. The discovery of the gonococcus by Neisser in 1879 at once gave rise to various theories as to the cause of gonorrheal arthritis. One school held that it was due to the gonococcus itself; another, that pus micro-organisms, which obtained entrance through erosions in the urethra, produced by the gonococcus, were the cause of the disease; a third, that it was the result of a mixed infection; a fourth, that a toxin, produced by the action of the gonococcus on the mucous membrane of the urethra, should be considered as giving rise to the articular symptoms.

That the fluid drawn from the synovial membrane often did not contain gonococci was brought forward as a proof that their presence was not essential at the point of inflammation, the possibility of the death of the gonococcus before the joint had been tapped being ignored. However, it was generally acknowledged that the disease did not exist with non-specific urethritis, and, on the other hand, was present in cases of gonorrheal ophthalmia, consequently something more than a mere irritation of the mucous membrane was necessary. It was also admitted that patients subject to ordinary articular arthritis did not show any predisposition to gonorrheal arthritis, while those who had suffered from the latter disease seemed especially liable to another attack should they acquire a fresh case of gonorrhea.

Höck, in 1893, and Neisser, in 1894, demonstrated positively the presence of the gonococcus in the effusion drawn from a joint affected with gonorrheal arthritis, and thus placed the pathology of the disease on a solid basis. Bordone-Uffreduzzi, in 1894, furnished the positive clinical and bacteriological proof that the disease is due to the gonococcus by making cultures from an ankle-joint, and producing specific urethritis in a healthy urethra by inoculation with the pure cultures. But the presence of the gonococcus in the blood-stream had not yet been proved, although it had long been maintained by many authors.

Assuming that gonorrheal arthritis is due to the direct entrance of the gonococcus into the circulation, one of two conditions must exist in order to harmonize with the symptoms of the disease: as only one joint is generally affected, the cocci must be present in the blood-current in very small numbers or the power of resistance of the membranes and tissues must be comparatively less. As a matter of fact, the gonococci found in an inflamed joint are rarely present in such numbers as would be expected, showing that the media in which they are growing is not especially congenial, or that the virility of the coccus has been diminished in its transplantation. Finger claims that the gonococcus can cause suppuration in the connective tissue. If this be accepted as true, it is surprising that its presence in the blood does not produce greater destruction of tissue than has been observed, and that the inflammatory foci set up are comparatively so few and also are so widely separated.

The presence of gonococci in the blood-stream has been proved by Thayer and Bloomer in an article on "Ulcerative Endocarditis Due to the Gonococcus."[1] The case was that of a female, aged thirty-four years, who had been suffering from an endocarditis of unknown origin. Gonorrhea was not suspected. During life, blood was aseptically drawn from the median basilic vein and mixed with agar-agar, the proportion of blood in the plates being at least one-third, which combination is practically Wertheim's medium. After forty-eight hours in the thermostat the plates were found crowded with white pin-head colonies. Cover-slips from these colonies showed a small oval diplococcus, at times biscuit-shaped, the elements being side by side. Transplantation on agar-agar, gelatin, potato, litmus milk, and bouillon were negative, no growth resulting. At the autopsy there was found an acute ulcerative endocarditis, with a diplococcus present in the valve, which, under similar tests, proved identical with that obtained from the blood during life. Examination of the vaginal secretion made after death showed a diplococcus, decolorizing by Gram's method. The authors believed that the diplococcus found in the case was the gonococcus of Neisser for

[1] *Johns Hopkins Hospital Bulletin*, April, 1896.

the following reasons: (*a*) Its form and arrangement were characteristic; (*b*) while present free, the cocci were frequently found crowded in the protoplasm of leucocytes in the thrombus on the valve; (*c*) it refused to grow on ordinary media; (*d*) it grew readily on human blood-serum and agar-agar (one-third blood); (*e*) it decolorized when treated by Gram's method.

The results obtained from this case prove beyond any reasonable doubt that the gonococcus can be present in the blood stream, thus giving a satisfactory explanation as to the manner in which the coccus is transferred from one portion of the body to another. The gonococcus enters the circulation through ulcerations in the urethra. The tissues beneath the epithelium of the urethra are often invaded, and sections have shown the smaller capillaries filled with gonococci, thus giving positive evidence as to the manner in which they may gain entrance into the blood-stream. Crippa reports a case of gonorrhea, of two-days' duration, in which there was marked edema of the frenum. The edematous areas were punctured, and gonococci were found in the fluid obtained. This discovery offers an explanation as to the mode of infection in those rare cases of gonorrheal arthritis which develop within a few days after the appearance of the urethral disease.

Cases of gonorrheal arthritis have been classified into serous, serofibrinous, seropurulent, and purulent synovitis, the names applied expressing the character of the contents of the joints. The serous and serofibrinous are the milder and more frequent forms of the disease. They generally end in complete resolution, with a gradual return of unrestricted motion. Every recurring attack seems to take a more severe form, and a third or fourth infection will almost certainly result in permanent disability. Dr. Broadhurst reports a case in which the patient had suffered three attacks of gonorrheal arthritis, each one preceded by acute specific urethritis. The attacks were progressively more severe, and after the last there remained some stiffness which appeared to be more muscular than articular. The man married, and was shortly afterward seized with acute inflammation of every articulation, resulting in ankylosis, which left him practically ossified, without power to move his head or any limb, and unable even to masticate his food. Purulent synovitis fortunately is rare. It often results in the complete destruction of the joint affected, sometimes necessitating resection or amputation. It is generally impossible to decide which variety of synovitis is present until after the joint has been opened, and in the early stages the treatment is the same under all circumstances. If there have been mild recurring attacks of serous or serofibrinous synovitis, a chronic condition of hydrarthrosis will probably remain, but with favorable prospects for unrestricted motion.

The knee-joint is most frequently involved in gonorrheal arthritis, furnishing about one-half of the cases. Next in order follow the ankle, shoulder, and hand. Fournier collected reports of 120 cases. The number of joints affected was 212. The knee was affected in 83 cases (more than two-thirds), the ankle in 32 (about one-fourth), and the fingers and toes in 25 (about one-fifth). The disease is present in two per cent. of all cases of specific urethritis in males, but is rarely found in females. A man of such large experience as Foucart says that he never saw a case in a woman.

Instances have been reported in which gonorrheal arthritis developed within a few days after gonorrhea was contracted, but, as a rule, it appears between the third and fifth weeks. It may, however, develop after months, as a result of chronic posterior urethritis, and the patient cannot be considered as having escaped this complication until it is positively known that the urethra no longer contains gonococci. Acute gonorrheal arthritis, whether monarticular or polyarticular, begins with a feeling of dull pain in one or more joints, followed quickly by redness and swelling, as the inflammation increases. Pressure over the tendons and insertions of the ligaments give pain before effusion has taken place. There is a rise in temperature, possibly as high as 104° F., but generally there is a marked contrast between the amount of swelling or pain and the temperature. Effusion occurs rapidly, the tension produced aggravating the pain. Extension of the inflammation along the muscle-sheaths prevents motion, and causes pain to be felt above and below the joint. In a few days the temperature drops to nearly normal, rising again if a new articulation becomes involved. Although the tension in the joint may become so great as to make suppuration seem inevitable, as a rule it does not take place, and the disease shows a tendency to become chronic, with occasional acute exacerbations. The endocardium and pericardium are not involved as frequently as in articular rheumatism. The urethral discharge is not diminished or suppressed by the appearance of the arthritic complication.

In chronic gonorrheal arthritis or hydrarthrosis, the invasion may be so slow and the constitutional affection so slight, that the first symptom which attracts the patient's attention may be the swelling and restricted motion of the joint. The knee, ankle, and elbow are usually affected. Absorption, as a rule, is very slow, and deformity may result

from adhesions due to inflammatory changes, or the exudate may develop organized fibrin, with resulting ankylosis of the articulating surfaces. In severe cases the synovial membrane may be thickened, while its inner surface becomes granular and pulpy. Erosion of the articulating cartilages and destruction of the bone substance, with separation of the periosteum, may completely destroy the joint, necessitating resection or amputation. The bursæ may undergo similar changes to those which take place in the synovial membrane of the joint. The most frequently affected is that in front of the tendo-Achillis, involvement of which gives rise to the characteristic limp, so often seen in cases of gonorrheal arthritis. The muscles of the neck and eye are at times involved, while affections of the spinal cord and sciatic nerve are by no means rare.

The diseases with which gonorrheal arthritis is most likely to be confused are articular rheumatism and tuberculosis of the joints. The persistence of pain in one articulation, the chronicity of the effusion, and the lack of conformity between the local lesion and the constitutional symptoms are the main differences from articular rheumatism. The diagnosis from tubercular inflammation is facilitated by the bacteriological examination of the contents of the joints, and of any existing urethral or vaginal discharge. In cases in which the result of such examination is negative, the differentiation is very difficult to make, especially in married women, with possibility of venereal disease contracted from the husband, and without a tuberculous history.

The treatment of gonorrheal arthritis has been most unsatisfactory, and will continue so until a means has been discovered for discouraging the development of the gonococcus, when once it has entered the circulation, or has been deposited in locations which cannot be reached by topical applications. White recommends quinin in doses of 5 to 10 grains, three times a day, and biniodid of mercury $\frac{1}{10}$ of a grain until improvement sets in. Mercury, in various forms, pushed to its constitutional limit, has been advocated by many authorities, and in some cases can be used to advantage. Copaiba, in large doses, and salol are also, at times, of great value. If the swelling and pain are great, the application of leeches may give temporary relief. The use of the Paquelin cautery, applied daily, is of benefit, especially in the subacute stage. Hot applications of a lead-and-opium solution may be used to alleviate pain, and the joint should be wrapped in cotton, bandaged lightly. If the case has become subacute or chronic, with delayed resolution and impairment of motion, massage, and particularly forcible, gradual flexion of the joints hastens the return of voluntary motion. Too much stress cannot be laid upon this point. By breaking up any adhesions before they have had time to become thoroughly organized, not only is the function of the joint restored sooner, but also possible permanent impairment of motion is prevented. Force, however, should only be used in flexion. If adhesions keep the joint in a position of flexion, the tendons should be severed before forcible extension is attempted. Surgery is being more frequently resorted to, and the aseptic opening of the joint, in severe cases, followed by irrigations with an antiseptic solution, is a rational and often most satisfactory procedure. If the arthritis is due to specific urethritis, the urethra should receive especial attention, and the patient should be warned, on his recovery, of the great danger of permanent disability should he again acquire gonorrhea.

The patients whose cases are here reported were treated by means of copaiba, 10 grains, cubeb, 5 grains, salol, 3 grains, and pepsin 1 grain. As constitutional effects of copaiba were present in both instances, it seems probable that the therapeutic results noted were due to this drug.

CASE I.—January 10, 1896. A. R., white, aged twenty-five years, had been suffering from specific urethritis six weeks. First attack. Slight burning on micturition. No increase in frequency. Discharge profuse and purulent. Had been treated with injections of sulphate of zinc. Two days before was taken with feeling of malaise, followed by slight chill. Temperature, 102° F.; pulse, 90. The joints of the second and third fingers of the right hand were slightly red, swollen, and painful, the articulation of the first and second phalanges of the second finger being especially sensitive. The hand was enveloped in cotton, and a bandage applied. Capsules of salol compound, one every three hours, was ordered. No injection was ordered, as the patient could not use a syringe on account of the condition of his hand. January 12th. Patient was in great pain, complaining of throbbing sensation in the right hand, especially the second finger, which showed effusion at the joint of the first and second phalanges. Skin covering the same was glistening. Could not bear weight of bedclothes on hand, or slightest draught from an open door. Hot lead and opium lotion applied every two hours. Temperature, 101° F.; pulse, 92. January 16th. Sixth day. Temperature, 100° F.; pulse, 84 in morning. In the evening a bright rash appeared over face, arms, body, and legs, which proved to be a well-marked copaiba erythema. Bowels slightly loose. From the moment the erythema appeared the symptoms of the arthritis improved, the pain practically disappearing in a few hours. The capsules were discontinued. January 18th. The fingers could be moved with almost no pain, and the swelling around the joints was less. The urethral discharge, which greatly dimin-

ished while the effect of the copaiba was at its maximum, returned as before when the administration of the drug was suspended. The gonorrhea lasted several months, with no return of the arthritis.

Case II.—March 10, 1897. W. F., white, aged twenty-four years, had had specific urethritis three weeks; second attack. No pain on micturition or increase in frequency. Discharge moderate and purulent. Four days before right knee became painful and enlarged. Was then markedly swollen, with slight effusion. Swelling pronounced on inner surface, extending along tendon-sheath above joint. Articulation of metacarpus and first phalanx of right little finger was swollen, red, and painful. Duration two days. The patient was ordered capsules of the salol compound, one every three hours, and an irrigation for urethra of bichlorid of mercury 1 to 40,000. March 12th. Patient had been compelled to go to bed on account of pain in knee. The joint was wrapped in cotton and hot lead-and-opium solution applied every two hours. Condition of right knuckle unchanged. Temperature, 101.8° F.; pulse, 80. Bowels very loose. March 14th. Condition improved. Knee not so painful. The diarrhea was so pronounced that the capsules containing copaiba were stopped and quinin and salol substituted. March 17th. Pain and swelling in knee much less. Temperature, 100.5 F.; pulse 80. Bowels regular. Capsules of salol compound were again administered, one every four hours. March 20th. Patient much improved. Pain in knee practically gone. Swelling less pronounced. The knee-joint was stiff and could only be slightly flexed. Temperature, 99° F.; pulse, 76. Massage treatment was given the knee every day, with gentle forced flexion, and as the effusion was absorbed voluntary motion gradually returned. The capsules were continued and on April 1st the man could walk fairly well. By April 10th, one month after the beginning of treatment, only a slight stiffness remained, and the urethritis having been cured in the meantime, the patient was discharged.

Both these patients seemed especially susceptible to the action of copaiba, and in both marked and continued improvement was noted as soon as the physiological effects of the drug were observed. There seemed to be an almost immediate relief from pain. Copaiba undergoes changes in the economy by means of which it becomes germicidal. Appenheim has shown that urine passed by a patient after the administration of 20 grains of copaiba sterilized silk threads charged with microbes. Since gonorrheal arthritis has been proved to be due to the transplantation of the gonococcus, the possibility that the systemic effect of copaiba may inhibit their growth or even prove germicidal, cannot be ignored. Although in the light of our present knowledge we are unable to make out a distinctly rational treatment for gonorrheal arthritis, copaiba, by the results obtained from its use, seems to have proved itself worthy of a trial.

PROTARGOL AND ARGONIN IN THE TREATMENT OF THE PURULENT OPHTHALMIA OF INFANTS.[1]

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Since the introduction of silver nitrate in the treatment of gonorrheal catarrh, by Professor Neisser of Breslau, experiments have aimed at the eradication of the micro-organism characteristic of that infection. Previous attempts lay in the sole direction of arresting the profuse secretion, with the evident idea of the ancient metaphor—no secretion, no infection. Since Neisser's announcement of the gonococcus, about twenty years ago, efforts at replacing the silver nitrate by other agents have been made in the direction of those whose action is more bland, or less caustic. Condé's fluid, solution of potassium permanganate, cupric sulphate, zinc sulphate, mercuric bichlorid, chlorin, bromin, etc., have been in vogue, with the result that none of them has achieved the distinction of a *sine qua non* in ophthalmic practice. No remedy has accomplished what the silver nitrate has, *viz.*, to eradicate the gonococcus and to thus destroy the source of infection. In that most excellent paper of Weeks (1886) which aroused perhaps more earnest endeavor to establish the true germicidal remedy for this infection than any modern contribution in English, we are told the relative germicidal properties of the various remedies in ophthalmic practice employed in this and kindred conjunctival diseases. The silver nitrate holds the first position, but, unfortunately, it cannot be used in the strength of solution required on account of its severely irritating properties.

My only motive for presenting this brief paper is to emphasize the following points in connection with the two remedies, protargol and argonin, in so far as they seem to be superior to the silver nitrate; these points are: (1) the quicker destruction of the gonococcus; (2) the earlier disappearance of the secretion and the inflammatory process; (3) the resolution of the injured corneal and conjunctival tissues. A brief chemical review of these two agents is necessary in order to understand their clinical relations. Each is described as "a silver proteid compound, solutions of which cannot be precipitated by sodium chlorid, or by albuminous fluid." Protargol contains 8.3 per cent. of silver; it is a yellowish powder, readily soluble in cold as well as in hot water, forming a clear solution. It keeps well in powder form and in solution. Argonin contains 4.2 per cent. of silver. It is also a powder, fine,

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, December 8, 1898.

white, readily soluble in water on gently warming, but its solution is turbid. Argonin decomposes if exposed to too much heat in the preparation of solutions, and when decomposed it is very irritating. It is said not to keep well in solution, even in dark-colored bottles. In this connection it should be noted that silver nitrate contains 6.35 per cent. of silver, occupying between protargol and argonin a middle position as to the basic salt.

I desire to quote the conclusions of a clinician as to argonin, who used only 2-per-cent.-solutions. "First, both experimental and clinical investigations have shown that argonin kills the gonococci in a short time, notwithstanding its lack of albumin-coagulating power. Second, even in solutions stronger than 2 per cent. it has hardly any tendency to set up inflammation and it has no caustic properties." Protargol is more painful, and does not require solutions stronger than one-half to two per cent.; it is more promptly germicidal, and it is less likely to irritate. The germicidal superiority of protargol over either argonin, or silver nitrate commends it especially in the disease under consideration. This, in brief, is a comparison of the clinical behavior of each salt.

In some of the cases observed by me the gonococcus disappeared as early as two weeks, and in none later than four weeks. The average persistence of the specific germ under the silver-nitrate treatment is about five weeks. In one case where the mother had the gonococcus of Neisser, and both eyes of the infant were affected, the duration was only two weeks; but the ophthalmia did not appear until the child was more than two-weeks old. On the other hand, the bacteria were abundant in both mother and child. This was one of those unusual cases in which the abundance of secretion did not carry with it virulence of infection; and the anomalous relation can only be explained by the late development of the ophthalmia. In the limited observations thus far made by me there has been less ulceration of the cornea, with iris-protrusion and incarceration, less corneal staphyloma, and less cicatrization of the conjunctiva than with the silver nitrate; in other words, a quicker eradication of the gonococcus, and an earlier disappearance of the secretion and inflammatory processes, have been followed by a prompter resolution of the injured cornea and conjunctiva, while pain and reaction have been much less under the protargol than under the silver-nitrate treatment.

Before giving in detail the method of employing these salts, it is pertinent to the purposes of this contribution to describe the gonococcus found in the gonorrheal ophthalmia of infants, and the method of preparation for microscopic observation. The bacterium which Neisser discovered in 1889, as distinctive of gonorrhea, was a diplococcus of about one micromillimeter in size, contained within a round pus-cell formation; this is the usual bacterium found in purulent ophthalmia, and it establishes the unfailing source of origin of the contagion. Fifteen to twenty cells on one slide under one-eighth immersion-lens with a No. 2 binocular would be regarded as a large number; this power represents about 750 diameters; cells containing from twenty to one hundred diplococci may be said to be rich in bacteria. Sometimes only one or two round cells are found with from ten to twenty diplococci contained in each, in which case the specimen may be said to be poor in germs.

There are other microbes than the diplococcus of Neisser capable of reproducing purulent ophthalmia. Weeks isolated a bacillus in 1886 capable of reproducing a contagious ophthalmia; this was the same bacillus noted by Koch in Egypt in 1883, but not renewed by culture or transmission. Gifford in Omaha, and Axenfield and Morax in Paris and Würzburg, and Burnett in Washington found not the diplococcus of Neisser, but the micro-organism of pneumonia. Morax in 1897 found a diplobacillus, which he regarded as essential to the production of a contagious subacute conjunctivitis. As stated, all of these varieties of germs have been found and cultivated, and from their cultivations purulent ophthalmia has been produced. While we are indebted to bacteriologic discoveries for the nice differentiation of these diseases, the last word has not been said as to the actual conditions under which micro-organisms act. There must be a proper habitat of connective tissue and mucous membrane for the full play of their specific qualities; and there is much to be learned.

The method of preparation is very simple. A loop of wire, preferably of platinum, made fast to a wooden handle, gathers up a bit of secretion from a lower lid; this is transferred to a glass slide, and a second slide is smeared upon the first, thus giving two surfaces for observation at the work-bench; these slides are separated from each other, and placed in a bath of Löffler's methylene-blue for one or two minutes; a stream of water is allowed to flow over the deeply-colored specimen, after which their surfaces are dried with white blotting-paper. Thus two specimens are ready for observation. They are best examined under immersion with oil of cedar, and with the power already noted. The presence of a single cell with diplococci means infection—and it often happens that repeated examination has to be made to verify the supposition of their presence.

The following process is given by F. Michle[1] for

[1] *Pharm. Ztg.*, xlii., p. 823.

making solutions of argonin readily and rapidly: Ten parts of cold water are first introduced into a flask, and then one part of argonin. The whole is then vigorously shaken until a uniform mixture is had, when sufficient boiling water to make up the desired quantity of solution is added, the whole being frequently shaken until complete solution occurs, when the mixture is strained through a piece of gauze. The most effective solution of argonin for clinical work is one of 3 per cent. To prepare solutions of protargol the powder is stirred with some water, with or without the addition of a little glycerine, into a paste, and then diluted by adding the necessary quantity of cold or lukewarm water. Solutions of 0.25 to 2 per cent. are generally employed. A saturated solution of protargol is 50 per cent.

The method of using these solutions in a case of gonorrheal ophthalmia of an infant should be described at this point, as also the whole régime of the management of the patient. I may say here that such régime requires the skilled work of a trained nurse or nurses, in conjunction with the good judgment of a physician. The best type of régime is found in a well-regulated hospital; but the same details can be carried out in a private family, under similar skilled labor and good judgment. If one eye only be affected the fellow eye should be covered securely in every part, save at the lower outer region, over the temporo-malar portion of the orbit. This little opening is left for ventilation. The least harsh covering for a newly born infant's eye is lintine; this is cut round, slightly larger than the orbit; it is covered with a soft fluff of sterilized cotton; and this latter with gauze; collodion is smeared around the whole edge of the pad, save at the point already noted. This protected eye may be inspected every second day. The affected eye must be handled by the nurse from behind the patient's head; the nurse should never carry the infant in her arms; small round layers of lintine are transferred from a large square of ice every minute or two to the affected eye—and these minute changes are made for one hour without intermission; when an interval of one hour, or two or three, is given, according to the mild character of the affection. The rule is, however, to begin with continued applications of the ice-cold pledgets by day and night, the patient being under the care of two nurses. No interval of application should be ordered until there is positive evidence of an abatement of secretion; and this may not occur under two or three weeks; and it may result in a few days. The eyeball, lid, interspaces, and conjunctival sacs should at first be thoroughly irrigated with warm saturated solution of boric acid, the saturation-point of boric acid being about 4 per cent. As the secretion diminishes and gets shreddy, the nurse should wipe out the discharge with cotton dipped in the same boric-acid solution. Every effort should be made to keep the eye free from secretion. The protargol solution, at first 5 to 10 per cent. in strength, should be carried rather forcibly over the eyeball, and into the folds of the conjunctival sacs by means of a large pipette; it should at first be used from four to six times a day. As soon as the secretion lessens in amount, or becomes shreddy, while its fluid part becomes thinner, the protargol solution may be brought down to 2 per cent., and may be used less frequently. A successful result of such treatment would be a limitation of the disease to three, possibly, two weeks.

Examinations for gonococci should be made every second day, and an eye should not be regarded as safe, or as amenable to contact with its mother, until a full week has elapsed, in which absolutely no gonococci are found under the microscope. It must not be forgotten that, even with an apparently uninflamed eye, the sclera being white, the cornea glistening, and the lids scarcely swollen, gonococci may be present. The physician should not be too conservative as to the length of quarantine in a convalescing ophthalmia.

It is of great clinical advantage to know that protargol can be combined with many other salts, such as the sodium-chlorids, alkalies, etc.; it is unaffected by cocain, atropin, eserin, and other allied anodynes used locally in the eye; hence its field of usefulness in ophthalmia is very broad. It is not decomposed or precipitated by the albumin or alkalies present in the secretions from mucous membranes; and it may be stated that it is the only silver compound at present known which is not precipitated by dilute hydrochloric acid. I may add that its use in my hands in suppurations of the lacrimal sac, purulent styes, etc., has been more frequently followed by a checking of the pus-formation than when any other agent has been employed.

The following cases are quoted to show the advantage to be derived from the use of protargol in the treatment of gonorrheal ophthalmia. The results obtained show that the duration of the disease has been shortened, that gonococci have disappeared at an earlier date than usual, and that the sight of the affected eye has, to say the least, not suffered more than when other methods of treatment have been employed. In the earliest cases the protargol powder was dusted into the eye three times each day and allowed to remain fifteen minutes. This was soon changed to twice each day, but as the inflammatory reaction was marked and the patients com-

plained of severe pain, a fifty-per-cent. solution was substituted, being applied twice or thrice each day and allowed to remain in the eye three minutes. Later, a five-per-cent. solution was used and allowed to remain in the eye fifteen minutes. This last solution has proved to be the most satisfactory.

I will note only three cases of infantile ophthalmia in detail:

CASE I.—This case, of which I have incomplete notes, was that of a French baby five days old, admitted September 23d. Gonococci were found in abundance. October 3d there was great chemosis with corneal ulceration. The pure protargol was used twice each day and allowed to remain three minutes. On the fourteenth day after admission gonococci had disappeared, and on the seventeenth day the secretion was so slight that all treatment at night was discontinued. At this time the mother refused to remain longer in the hospital and we were unable to watch the case further; recovery was assured, with slight temporary ulceration of the cornea.

CASE II.—A Syrian mother brought her baby of two weeks of age to my service at the Post-Graduate Medical School suffering with purulent ophthalmia. Both eyes were attacked, pus was abundant, swelling was great, but there was no involvement of the cornea of either eye. On inquiry of an interpreter I learned that the mother had a profuse vaginal discharge, and that the ophthalmia was five-days' old, in other words, it developed on the ninth day of the life of the child. After the second visit I declined to treat the child as an ambulant patient, and both mother and child were sent by special boat to the Ophthalmic Division of the City Hospital. The mother was found to have the gonococcus of Neisser, while the secretion from the infant's eyes was rich in bacteria. Mother and child were isolated. Vigorous treatment, as already detailed, by the aid of a day and night nurse, and with the use of a solution of protargol, five per cent., so far hastened the eradication of the gonococci, and the subsidence of the inflammation that the child was discharged from treatment in 2½ weeks. In this case the protargol acted like a specific.

CASE III.—The most remarkable case is that of a baby born November 1, 1898. For several weeks previous to confinement the mother had been in the venereal ward for an obstinate gonorrhea. The child's eyes were carefully irrigated just after birth and silver nitrate, two per cent., dropped in the eyes. This was repeated on the following day. No discharge was noted until November 10th, when the left eye was attacked. The secretion at first was scanty and yellow. An examination was made at once. Pus-cells containing as high as thirty gonococci were found. The conjunctival mucous membrane was red but the inflammation was slight. Ice-pads were applied to the eye for three hours. On the following day the secretion was greatly increased and of a dirty brown color. The chemosis was very slight and the cornea bright and glistening. Ice-pads were applied constantly day and night, and the eye was irrigated with warm boric acid solution every ten minutes. Two drops of protargol solution, five per cent., were applied at 1 and 9 A.M., and 5 P.M., and allowed to remain ten minutes. November 18th, eighth day, the discharge was so scanty and the inflammation so slight that the ice-pads were applied every fourth hour and irrigations were lengthened to intervals of fifteen minutes. The cornea remained bright and clear, and the baby would open the eye widely when the light was not too strong. By November 21st, eleven days after admission to the eye ward, the discharge had almost stopped and, as no gonoccocci had been found since November 11th (the secretion having been examined every second day) the protargol was discontinued. The eye was irrigated once each hour and the day and night nurses were discharged. On the following day the discharge reappeared and increased rapidly. The color was a dirty yellow. The gonococci were numerous, some pus-cells containing more than thirty of these organisms. On the second day after discontinuance of treatment protargol, five per cent., was used as before and the irrigations were employed every fifteen minutes. Ice-pads were applied every fourth hour. There was very little inflammation and the cornea was still bright and clear. On November 25th, after a long examination, one cell containing a few gonococci was found. The secretion was again extremely scanty. November 28th and 30th, a few gonococci were found. On the latter date it was decided to use the protargol every four hours. On December 2d, the secretion was very slight, and only one pus-cell containing gonococci could be found. There was no involvement of the cornea and vision was perfect.

In this connection a few cases of adults will be of interest:

CASE IV.—The first adult case is that of a young man (McMahon) aged nineteen years, who was admitted to the Ophthalmic Division of the City Hospital, September 21, 1898. Gonorrheal ophthalmia had appeared in his right eye two days before admission. He had concurrent gonorrhea. There was extreme chemosis and abundant discharge but no corneal involvement. Ice-pads were applied constantly day and night, and the patient strictly confined to his bed. The eye was irrigated with warm boric-acid solution every fifteen minutes. A few grains of protargol were dusted into the eye three times each day and allowed to remain fifteen minutes. This increased the chemosis and the patient complained of a severe burning pain. We then tried leaving the powder in the eye three minutes but this was also too irritating. Finally, a fifty-per-cent. solution was made, applied three times each day, and allowed to remain three minutes. On October 5th, the secretion had so far diminished that irrigations were made once in thirty minutes. Two days later the time was lengthened to once each hour. October 12th, twenty-first day, the inflammation had so far declined that the ice applica-

tions were made intermittent—one hour on and one hour off. This was soon changed to one hour on and two off, and shortly afterward to one hour on and three off. By October 25th, just five weeks after the disease began, the secretion had entirely disappeared, all treatment except an occasional drop of atropin had been stopped and the patient was up and about the ward.

In this case the secretion was examined every other day. During the early stages the gonococci were numerous and the pus abundant. The number of gonococci diminished gradually. They disappeared at the end of the third week, at which time protargol was discontinued and silver nitrate, one per cent., was substituted. Atropin was used as required. To-day the eye presents leucoma, staphylomata, and pannus. The patient has perception of light but cannot count fingers.

Case V.—Frank T., aged twenty-six years, gonorrhea concurring, an unusually virulent case. The disease appeared in the left eye September 17th, and in the right eye September 21st, the day of admission to the hospital. At this time the left cornea was deeply ulcerated and the right one hazy. Gonococci were numerous and the secretion abundant. The same treatment was instituted as in the preceding case and the strength of protargol diminished as before. On October 5th, two weeks after admission, the secretion was so much diminished that the period of irrigation was lengthened to once every thirty minutes and, two days later, to once each hour. Chemosis diminished steadily and on October 18th, intermittent ice applications were begun (one hour on and one off, one hour on and two off, and finally one hour on and three off). October 25th gonococci had disappeared. November 1st, forty days after admission and forty-four days after the appearance of the disease all secretion had disappeared, treatment was discontinued, and the patient was out of bed. With the disappearance of gonococci silver nitrate, one per cent., was substituted for the protargol. At present there is leucoma and a small staphyloma of the right eye. Leucoma and slight adhesions of left eye. Iridectomy of right eye, performed later, produced very useful vision.

Case VI.—In the case of a boy, aged sixteen years, with concurrent gonorrhea, the gonococci were never numerous, though there was severe chemosis. His attack began September 20th. He received the same treatment as the previous patients. An ulcer of the cornea developed. September 27th ice applications were replaced by hot applications, one hour on and one hour off. On October 2d these were reduced to one hour on and three off. October 3d the applications were discontinued. From two to five irrigations were employed twice each night and then discontinued. The gonococci had steadily diminished and disappeared on the twentieth day. Result: Staphyloma and leucoma. Can count fingers at twenty-five feet.

Case VII.—Mary R., aged forty-five, gonorrhea concurring, a syphilitic. The disease appeared in the left eye September 21st. Gonococci were numerous and chemosis was severe. A corneal ulcer rapidly developed. After one week the pure protargol was replaced by a solution of fifty per cent. and the eye was irrigated three minutes after each application. By October 8th, seventeenth day, the intervals of irrigation were lengthened to twice each hour. Five days later the application of ice-pads at night was stopped. From October 13th to 20th they were used one hour on and three off and during the day only. Protargol was not stopped until October 15th. On October 20th, just one month after the first appearance of the disease, all treatment was discontinued and all secretion had disappeared.

I am under obligations to Dr. E. E. Woolworth, House Surgeon of the City Hospital, for the details of the cases here presented; also, to Dr. Ralph Tousey, Junior Surgeon of the City Hospital, for the stained preparations of the diplococcus shown under the microscope before the Section.

GASTRIC LAVAGE AFTER GENERAL ANESTHESIA.

By I. P. GUNBY, M.D.,
of Sherman, Texas.

After an operation requiring general anesthesia, nausea is frequently the most disagreeable symptom. No matter how thorough the preparation or how skilful the operation, vomiting will sometimes come on with reaction, and persist for days in spite of everything the nurse or physician may do. It has seemed to me that nausea may well be called the *bête noir* of anesthesia. When chloroform, as it is now manufactured, is given carefully, and the patient watched closely and continuously, I believe one may feel perfectly safe from the dangers that were formerly supposed to attend its administration. In my experience the distress and trouble commence after the patient has reacted. This nausea is more pronounced in adults than in children, and as a rule grows worse each successive time the chloroform is administered.

The cause of the nausea after general anesthesia has not been made very clear. It has been claimed that it is due to the effect of the anesthetic on the central nervous system, stimulating the vomiting center. It has seemed to me that a somewhat general idea of the cause may be gained if one considers that the entire system is thoroughly saturated with the anesthetic. Every one of the senses is paralyzed, and all the functions more or less suspended except those of circulation and respiration. As the organs begin to recover and the nervous system reasserts its control, their efforts are first directed to the expulsion of the poison that is present throughout the body. The lungs, the skin, the kidneys, the liver, and bowels all do what they can in ex-

pelling the anesthetic. The vomiting is an effort on the part of Nature to relieve the surcharged glandular and vascular systems of the drug. Chloroform can be detected in the mucus vomited for some days after its administration. Of course, some of the drug is swallowed with the saliva during its administration, but I am convinced that the stomach in this and some other conditions in which the system is profoundly poisoned takes upon itself an excretory function, separating the offending material from the circulation and expelling it from the body.

Patients find relief from the nausea after chloroform when they get rid of the chloroform, and one may hasten this relief by assisting the excretory organs. These patients should breathe the purest, freshest air that can be had, their bodies should be bathed and rubbed, the kidneys should be kept active, and the bowels moved. They nearly always find relief when the bowels move freely, but this is sometimes difficult to accomplish on account of the stomach rejecting every purgative that can be given, and, unfortunately, the laboratory department of our profession has not yet furnished us with an effective cathartic that can be administered hypodermically.

During the month of January, 1898, I gave chloroform to a woman who had been accustomed to wash her stomach out for some time on account of some digestive disturbance. While taking the chloroform, and after its administration was discontinued, she retched and vomited a great deal. When she regained consciousness she called for her stomach-tube, and proceeded to flush her stomach with warm water. It afforded her relief from the nausea immediately, and later in the day she took nourishment, and on the next day ate as heartily as usual. Her experience made quite an impression on me, and I determined to try the method thoroughly. I have found that patients experience some difficulty in swallowing the tube the first time when they are conscious, so I determined to irrigate the stomach before they fully regained consciousness. My colleague, Dr. King, and I have carried out this measure in nearly every operation we have performed on adults during the past eleven months, and it has almost uniformly succeeded in relieving our patients of nausea, or rather in preventing them from experiencing nausea. It has, indeed, made the after-treatment much simpler and easier both for our patients and for ourselves, and in some doubtful cases we have thought that their escape from nausea turned the wavering balance in their favor. On looking up our records, I find that we have employed the measure more than fifty times, and the list of operations after which it has been employed covers a considerable range. One was a case of abdominal hysterectomy, another of resection of the intestine, and there were a number of laparotomies for various causes. In all these patients there was scarcely any nausea. Occasionally there was some vomiting, but it was of short duration, and the patients experienced very little distress. They were more cheerful, and took and assimilated nourishment very much more readily than had been usual in similar cases under our observation. The nurse in charge of the Sherman Sanitarium, where most of these operations were performed, soon became an enthusiastic advocate of the procedure. She believed that it relieved her and the patients more than anything that could be done.

The method we employ is that of flushing out the stomach by means of an ordinary stomach siphon just as the chloroform is discontinued, and while the operator is applying the dressings to the wound. From one to two quarts of warm water is used, it being continued until the water returns free from bile or mucus. In order to keep the patient's teeth from closing on the tube, the use of a mouth-gag or large cork is necessary. It is best to have a large-sized stomach-tube, as the smaller ones often become choked by thick mucus. Not more than ten or twelve ounces of water should be introduced at a time, as larger quantities are apt to cause some retching. We have found that the distance from the mouth to the stomach varies considerably, and a little judgment is required to introduce the tube just far enough and not too far.

How this lavage acts in preventing nausea I cannot say. It certainly does not clear away enough chloroform to amount to much. It cleanses the stomach of the accumulated mucus, bile, and saliva, and in some way gives to it a freshness and vigor that enables it to send its contents down the intestines instead of up the esophagus. I think the simplicity of this method should commend it to all. It can be easily carried out in a few minutes without annoying the patient, for he is not conscious that it has been done unless informed of it afterward. It hastens convalescence by enabling the patient to take nourishment much sooner than it otherwise could be taken. It will decrease the dread of chloroform, and render operations generally less objectionable. I sincerely believe the time will soon come when a gag and stomach-tube will be a part of the outfit of the assistant who gives the anesthetic, and that every anesthetizer will be instructed in their use just as regularly as in the administration of the anesthetic.

Trachoma in Hungary.—Trachoma is widely spread among the 8,000,000 inhabitants of Hungary, four in 1000 being afflicted with the disease.

CLINICAL MEMORANDUM.

A NASOPHARYNGEAL POLYPUS OF ENORMOUS SIZE.[1]

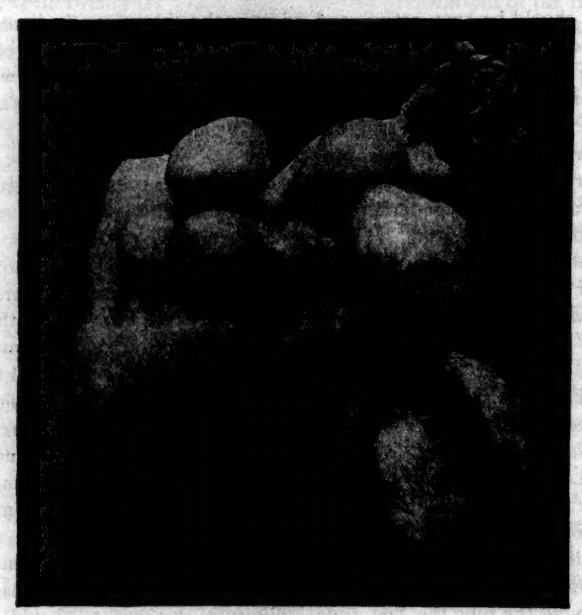
BY MAX THORNER, M.D.,
OF CINCINNATI;
PROFESSOR OF CLINICAL LARYNGOLOGY AND OTOLOGY IN THE CINCINNATI COLLEGE OF MEDICINE AND SURGERY; LARYNGOLOGIST AND OTOLOGIST TO THE CINCINNATI HOSPITAL.

NASAL and nasopharyngeal polypi of more than average size are occasionally encountered, but the specimen of polypus here presented, which was taken from a patient on April 23, 1898, is of such unusually enormous size that I present it on this account.

The patient, a white man, thirty years old, was admitted to my service at the Cincinnati Hospital, his complaint being inability to breathe through his nose, fulness in the head and deafness and continuous roaring noises in the ears. This annoyance had existed for several years, and was first noticed some seven or eight years ago. He stated that he had been operated upon several times, the last time at Washington, D.C., about one year before, when a tumor had been removed piecemeal from his throat, but not very long after the operation the obstruction again made itself felt.

The patient had the characteristic expression of a mouth-breather. Hearing was very much diminished, and the voice had the characteristic nasal twang. Upon examining the throat a large polypoid mass of grayish color and glistening surface about the size of a pigeon's egg could be seen protruding below the right side of the soft palate. The soft palate itself was immovable during phonation and was undoubtedly pushed forward. Upon lifting the palate with a palate hook, which could be very easily done because the mucous membrane was apparently obtunded, it was seen that enormous white masses of irregular size filled the entire post-nasal space. The site of origin of these masses could not be made out, but it was apparent that it was somewhere on the right side of the pharynx. The left nasal fossa was free, but the right fossa was filled posteriorly with the same polypoid masses. I was under the impression that I had to deal with several polypi, and expected to remove them one after another.

On April 23d I operated upon the patient in the presence of the internes, Drs. McKee, Iglauer, and Dean, under cocain anesthesia. I introduced a cold-wire snare behind the soft palate, and pushed it up as far as possible over the polypoid masses. After some difficulty I succeeded in extracting this enormous mass of polypoid tissue, and found to my utter astonishment that I had removed the entire growth, which represented one large polypus, consisting of many large and small lobules. Some of these lobules were of the size of a small hen's egg. (The illustration does not convey an exact idea of the specimen as it was made after the latter had been in a solution of formalin for some time and had become hardened and somewhat contracted.) The tumor was attached by a slender pedicle of the diameter of a thin lead-pencil to the right lateral wall of the pharynx just in front of the orifice of the Eustachian tube, and after the operation the bleeding-point of its insertion could readily be seen with the aid of a rhinoscopic mirror. The right nasal fossa, of course, was free after the operation, as the



Exact size of nasopharyngeal polypus removed from the patient.

[1] Read at the annual meeting of the American Laryngological, Rhinological and Otological Society, at Pittsburg, 1898.

mass which had been seen in its posterior portion was but a part of the polypus.

The growth is a so-called mucous polypus, which, as we know now, is nothing but a fibroma edematosum, and, though located in the post-nasal space, must not be confounded with a nasopharyngeal fibroma, which usually takes it origin from the periosteum of the basilar portion of the occipital bone and the anterior surface of the upper cervical vertebræ. There is little doubt that this polypus originated in the posterior portion of the right nasal fossa near the choana, and that by reason of its location and weight it descended into the post-nasal space, where the conditions for its unusual development were very favorable. The hemorrhage following the operation was insignificant. The largest diameter of this tumor is 2¾ inches, its greatest thickness 1⅛ inches, and its weight 1 ounce, 5 drams.

I have been unable to find a record of a post-nasal polypus of similar size.

NOTE.—No recurrence had taken place up to December 22, 1898, eight months after the operation, when the patient presented himself again for reexamination.

SPECIAL ARTICLE.

THE MEDICAL NEWS' INVESTIGATION INTO THE CLAIMS OF CHRISTIAN SCIENCE.

BY JOHN B. HUBER, M.D.,
OF NEW YORK;
ASSISTANT TO THE CHAIR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

IN the following report to the MEDICAL NEWS on the results of an investigation of Christian Science from the viewpoint of a doctor of medicine, although a number of general observations are set down, a consideration of this cult as a philosophic system has not been attempted. I have in the main confined myself to an examination of the Christian-Scientists' method of treating the sick and of the results claimed for this method. In pursuance of this plan I have gathered the histories of some twenty people treated "in Christian Science," and these histories are detailed in this paper.

To begin with I called at the "First Church of Christ, Scientist," in Forty-eighth street, between Sixth and Seventh avenues, this city, having a card of introduction to Mrs. Stetson, the "pastor" of the church. I went in at the basement and entered a large room which was very comfortably furnished and which had an air of inviting warmth; one got the impression that esthetic effects had been attempted with much success. A gentleman took my card to Mrs. Stetson. In the meantime I observed several hundred men and women (the latter much the more numerous) chatting in groups. It seemed a well-dressed, a well-to-do, and so far as I could judge at the time, an intelligent company.

I was presently taken to a room such as would be the vestry-room in an ordinary church and here I met Mrs. Stetson. During my call of half an hour I complimented her upon the pleasing appearance of this room. Photographs, pictures, flowers, and a divan (upon which were placed silk and embroidered cushions) were artistically arranged, the carpet was very soft and everything seemed calculated to create an agreeable impression and to make one feel at ease. Mrs. Stetson, in answer to my compliment, said it was a principle in Christian Science to arrange a patient's environment so that the senses would be pleased and gratified. Cleanliness, good order, and all other wholesome conditions were a means to an end—"they helped, though in a minor way, to cure the patient."

Mrs. Stetson kindly appointed a time several days later for me to call again. In the meantime I prepared a number of questions; Mrs. Stetson preferred not to answer these questions herself but arranged to send them to the Reverend Mary Baker G. Eddy, the *Mother* of the Christian Science Church. This was done through the agency of a Mr. Metcalf. I wrote a letter to Mrs. Eddy which accompanied the questions. There were in all some twenty-eight, among which it was asked if the treatment of the sick is a part of Christian Science; upon what principle the Christian Scientists' method of teaching the sick is founded; how the Christian Scientist defines health; how the Christian Scientist defines disease; if, on the patient presenting himself, the causes of his disease are inquired into; if symptoms are investigated; if post-mortem examinations are made; if diagnoses are made; if material substances (drugs) are administered to the patient; how a patient is treated; what is done in infectious diseases; if Christian Science can, without the administration of drugs, cure patients in whom the structure of the organs is diseased; if surgical injuries, such as fractures of bones, are treated "in Christian Science;" if animals, when they become sick, can be cured by Christian Science, etc.

I received no reply from Mrs. Eddy, but Mrs. Stetson informed me the matter had been referred to Mrs. Eddy's counsel, Septimus J. Hanna, Esq., of Boston, Mass. Judge Hanna sent Mrs. Stetson a letter on the subject, which Mrs. Stetson kindly turned over to me with permission to use it as I should see fit. A copy of this letter follows:

"Editorial Office of THE CHRISTIAN SCIENCE JOURNAL,
"95 Falmouth St.
"BOSTON, MASS., November 18, 1898.

"MRS. A. E. STETSON,
"New York City.

"DEAR SISTER:—Mr. Metcalf handed me the questions submitted by Dr. Huber. I have also received and carefully read your letters. As I think Mr. Metcalf has informed you this matter was referred to me from Concord. I have been so very busy that I have not had time to give this matter the thorough attention it needs until now.

"I have carefully read and considered the entire paper. My conclusion is that it will be wholly impractical, indeed, I may say, impossible to answer these questions in such a manner as to make an entire paper fit for publication in a medical journal, or in any other magazine or periodical. The questions submitted touch the entire subject of Christian Science both in its theology and ther-

apeutics. These questions can be answered only in one way, so that they can be understood; and that is by just such study of the Bible and "Science and Health, with Key to the Scriptures" as the earnest, sincere Christian Scientists are giving them every day of their lives and have been for years. When we think of the helps provided by our leader, the Rev. Mary Baker Eddy, for her own students in arriving at a correct interpretation and putting into practice the teachings of these text-books, such as the publications established by her, the Bible lessons made up of selections from the Bible, and our text-book constituting the sermons for our study in all the Christian Science churches, the many auxiliaries she has published and is publishing in further illuclucidation (*sic*) of the text-books; when we stop to consider that even those of her students who may be considered the most advanced are yet mere infants in the understanding and ability to demonstrate the truth contained in these text-books, can we not easily see, and will not your friend, the doctor, at a glance, see the utter futility of attempting to answer his questions so as to make the answers intelligible to the medical profession and their readers? I admire greatly the kindly spirit manifested by the doctor and those for whom he is acting and the entire fairness, from their standpoint, of the questions submitted, but this does not relieve the difficulty of the situation. I therefore return the doctor's questions with many thanks in behalf of our leader and the cause for the impartial spirit manifested.

"Yours in truth,

"S. J. HANNA."

I wish, in passing, to state that I have put the question "Do you isolate a patient suffering from an infectious disease?" many times to many Christian Scientists. I consider this question simplicity itself and I think any sane person possessed of merely rudimentary honesty should be able at once to answer it intelligently and satisfactorily. But so profound is this "Science" and so spiritualized are its devotees that I have not been able to obtain from any one of these people a straightforward answer. No doubt Judge Hanna, being a lawyer, could, if he chose, tell the reason why he who asks such a question as this would have to spend months or years in Nirvana-like abstraction before he would be able to appreciate an answer to it.

He who would be a good Christian Scientist must have in his possession the Bible and the book, entitled "Science and Health, with Key to the Scriptures." If he would be a good Christian Scientist "Science and Health" must be his *vade mecum*. As he reads this book he is likely to be compelled to stop several times at every page and meditate upon what he has read. At the end of his meditation the passage will probably be no clearer to him than when he began to think. Mrs. Eddy has therefore provided other works to explain the statements made in "Science and Health." There are at least twelve such works, or collections of works, comprising books, pamphlets, and sermons, and ranging in price from 20 cents for a sermon to $6 for a book. Everything of a copyrightable nature which I have seen, including Mrs. Eddy's photograph, has been copyrighted. In some instances the truth can be had by the job-lot and at correspondingly reduced rates, as one copy of a pamphlet for 50 cents and twelve copies for $4.50. Many of these works have passed through a number of editions. I took a copy of "Science and Health" to the rooms of the American Bible Society in Astor Place, New York City. This society is engaged in the endeavor to disseminate truth solely for truth's sake. This one book ("Science and Health, with Key to the Scriptures") costs $3 over a book-store counter. It has now passed through at least 153 editions. I showed this book to the gentleman in charge at the Bible Society. He produced a Bible similar to this book as regards type, paper, binding, etc., the essential difference in make-up between the two being that there are 651 pages in "Science and Health" and 1285 pages in the Bible. It costs less than 40 cents to put this Bible on the book-store shelf; and the Bible Society sells it for 50 cents. This society gives a discount of ten per cent. from its list prices to auxiliary societies and to dealers in books.

I am told that Mrs. Eddy had to borrow the money with which to publish the first edition of this book, and that she is now a millionaire. On the most conservative estimate this statement seems altogether credible. Mrs. Eddy, at all events, must have found extremely remunerative the business of elucidating (?) the truths set forth by the poor Nazarene. Besides Mrs. Eddy there are those among her followers who have produced works on Christian Science; these works (which are not presented to truth seekers) are not to be studied by the faithful unless they bear the stamp of Mrs. Eddy's approval and they are not used in the various classes unless by her permission. The mercenary motives underlying this movement will be further commented upon in the course of this paper.

I have been present at several "experience meetings" in the Christian Science churches. There is an organ prelude, then a reading from the Bible, after which comes the reading of an extract from "Science and Health." A discourse follows, several hymns are sung, and finally a number of people rise from their seats and relate how they have been treated, or, in their opinion cured "in Christian Science." There is no benediction. In the audience women were greatly in the majority; I counted in one gallery twenty-nine people of whom twenty-five were women. These meetings were held in the evening. There are said to be about 3000 Christian Scientists in and about New York City. There are seven churches in the Greater New York, four of which are in the Borough of Manhattan. These four are located as follows: (1) At 143 West Forty-eighth street; (2) in West Eighty-Second street, between the Boulevard and West End avenue; (3) 80 West One Hundred and Twenty-sixth street, and (4) now situated on the corner of Twenty-ninth street and Madison avenue, for which a new building is being erected on the corner of Eighty-sixth street and Central Park West. The "pastors," or "first readers" as they are also called, of these four churches are all women, at least one of whom enters the pulpit gowned and bediamonded as for a social function. These churches are, then, in the neighborhood of the well-to-do; there

are, so far as I know, no mission churches in the poorer parts of the city, and it does not seem to be the endeavor of those at the head of the movement to carry the blessings of "Christian Science" among the poor. Indeed it is a tenet in Christian Science that one has no business to be poor. All the Christian Scientists I have met and seen appear to be above actual want and some of them are evidently very wealthy.

I find among these people very few of the very young men and women; this I would explain on the assumption that youth is likely to be normal in its mentality. On the other hand I have seen many in middle and in advanced life who seem to me to have in their earlier years found it difficult to conform their minds and bodies to the universal scheme; who have probably found it irksome to live in accordance with Nature's laws; who have as a result, been unhappy and dissatisfied with life; who have taken up, one after another, faith-cure, theosophy, spiritualism, etc., and are now trying Christian Science as the latest of these fads, to cast it aside in its turn as soon as they find it as great a delusion as its predecessors. These people are no doubt especially numerous in these times of unsettled problems and of unphysiologic living. I have, indeed, met a number of people who *have been* Christian Scientists, and who rather pathetically state that they have found this movement as illusory as any other of its kind.

Every Christian Scientist, every little child even, can be a "healer" in Christian Science. The treatment is carried on by means of thinking, speaking, or writing. No material substances are prescribed (so I am told) and no topical applications of any sort are employed, indeed, the administration of drugs would render ineffectual the healer's efforts. The treatment is alleged to be purely mental. Some, but not all healers, take obstetrical cases; however, it seems generally preferable to have a physician called in to deliver the child and the placenta, but he is not permitted to do any more than this. While the physician is thus engaged the healer stands by the patient's bedside and thinks. The healer charges fees for his services the same as the physician does. It costs to be healed in Christian Science!

The healer need not know what the patient complains of, but the patient may, if he wishes, "put in a claim," that is, he may tell what is the matter with him. To the healer, however, it makes no difference whether the patient tells or does not tell what he suffers. The latter, moreover, does not need to be with the patient (*vide* "Science and Health"). This is an undoubted convenience from the healer's point of view, all the more for the reason that the Christian Scientist charges a fee for each treatment whether he be with the patient or not. In the middle of the night a friend of the patient may go, or may telephone for that matter, to the healer's house and inform him that the patient is ill. The healer may then, while lying on his back in his own bed, treat the patient "absently." The healer may treat absently by letter no matter at what distance. Furthermore, the healer may, without knowing it, cure in the patient a malady other than the one from which he is given to understand the patient is suffering. For example, a female Christian Scientist living in this city treated "absently" a young woman living in the northern part of New York State for irregular menses. This disorder was healed. Then the delighted young woman informed the healer by letter that she had not mentioned the fact that she had been deaf; but she could now hear, thanks to the treatment she had received from her distant Christian Science healer.

Some patients are cured in one treatment, others require a number of treatments; in some cases the patients are a long time, months or years, as long, in fact, as they remain credulous, under treatment before they are cured or discouraged into seeking other methods. The more powerful healers attempt to dissipate tumors, cancers, and various surgical diseases. Mrs. Eddy can cure anything; for instance, she has healed in one sitting a cancer which had eaten down to the jugular vein; she does not trouble herself to supply for investigation the names, addresses, etc., of such subjects. But who could expect the "Mother" of this "church" to descend to such petty details! However, among the rank and file there seems to be some difficulty about the healing of surgical diseases; in fact it is acknowledged that at present the treatment of such diseases by the ordinary healer is rather unsatisfactory, although it has been reported (among other interesting statements) that a short leg has been made long by means of Christian-Science treatment.

Here an observation may, very humbly of course, be ventured. The Christian Scientist holds that "all is mind; there is no matter." Now the benighted outsider would arrive at what he would consider the logical conclusion that if this is so it should be as easy to dispose of a fractured skull as of an attack of hysteria and that (it being unnecessary according to the Christian-Science dictum to take into consideration the varying densities of tissues) it should take no longer to cure a cancer than to cure a bilious headache. But to this the Christian Scientist would say that Christian Science is still very young and that its adherents have not yet been sufficiently saturated with "the truth" to be able to overcome the greater difficulties. In the course of time, however, the more stubborn diseases will succumb—nay, the time will come when the dead will be taken by the hand and raised from out their coffins (again *vide* "Science and Health").

Christian Science can also make sick animals well; in these cases the cure is achieved by thinking or talking, and it is alleged that no material remedies are used.

I am informed that at the end of a course of study in Christian Science the student is given the following formula which he is to use in treating disease. For instance, the patient "Kate" has a cough; she is thus mentally addressed: "Kate, you are not sick and you know it. There is no matter, therefore matter cannot pain. You are a child of God, who gave you the power to govern your present condition. But you are not aware of it. Therefore I, who manifest God, I, who reflect the Divine idea, I, who am a follower of Christ, who said "Verily, verily I say unto you, the same things which you see me do now, those will do that believe in me, and even more." I, who do not *believe* but *know* that nothing can stand up before

infinite mind, I say that cough which troubles you must go. Get thee behind me and dissolve thyself into nothingness whence thou comest, for thou art nothing but the work of mortal mind, which, itself is only the upper stratum of matter which exists not." I am told also that the healer may, if he wishes, speak this formula while treating the patient.

(To be continued.)

THERAPEUTIC NOTES.

Nosophen and Nosophen Gauze.—HORACE TRACEY HANKS (*American Gynecological and Obstetrical Journal*, December, 1898) renews his favorable opinion regarding this medicinal substance in gynecological work. After an experience of nearly four years with nosophen he believes that it has virtues equal to those of iodoform. It has the additional advantage of being free from odor. He commends it for its efficiency in preventing excessive and rapid suppuration in all abrasions and on all raw surfaces after curettage, when this procedure is applied for endometritis or for removing the débris of an abortion. The nosophen gauze is also efficient as a dressing for abdominal wounds.

Colloidal Silver and Blood Poisoning.—WERLER (*Deut. med. Wochenschr.*, October 6, 1898) has convinced himself that Credé's last soluble silver salt, which bears the name of colloid silver, is a specific for sepsis. It is administered not in solution by the mouth, but in the form of inunctions, the salve employed containing 15 per cent. of the soluble silver, about 15 grains of such an ointment being rubbed into the skin of the chest or back every night. Improvement in the general condition, in the cases of surgical sepsis from minor wounds which Werler reports, occurred after only one inunction had been made. In order to effect a cure, however, it is necessary to repeat the treatment from five to twenty times according to the nature of the case, those conditions which are chronic requiring a longer course of treatment. Locally a wet dressing of silver citrate, 1 to 4000, was employed. Unfortunately in all of the cases reported by this observer, the focus of infection had found its way to the surface of the body at about the time that treatment was begun, so that it is open to question whether the subsidence of general symptoms was not dependent upon this fact. In the treatment of chronic furunculosis, the use of the silver salve was eminently satisfactory.

Urotropin in the Treatment of Cystitis. — KELLY (*Therapist*, October 15, 1898) realizing that cystitis is due to the invasion of the bladder by micro-organisms, says that the first indication for treatment is to render the urine antiseptic. For this purpose he has tried with a certain amount of success, salol, ammonium benzoate, guaiacol, resorcin, benzo-naphthol, sodium salicylate, creasote and other preparations. They are all helpful in making the urine antiseptic, but no one of them has given him the complete satisfaction which he has had from the use of urotropin, a non-toxic and non-irritating derivative of formic aldehyd. It is formed by the action of four molecules of ammonia on six molecules of formaldehyd, and was first introduced to the profession by Nicolair in 1895, who asserted that it possessed the power of dissolving uric-acid concretions and also that taken *per ora*, it prevented the development of bacteria in the urine. In cases of phosphaturia and cystitis its action is almost a specific one. It appears in the urine as early as fifteen minutes after its administration, and its presence can be recognized twelve hours later after a dose of 7½ grains. It is soluble in 1.2 parts of water at 68° F., and the reaction of its solution is faintly alkaline.

If the condition of the patient is a very bad one large dose of the drug should be given, as much as 20 grains twice a day; and if the urine is strongly alkaline, a little dilute mineral acid should also be given until the reaction is improved. Kelly gave these remedies to a man aged thirty-five years who had suffered for a long time with cystitis. Nine days from the beginning of treatment the urine became clear and slightly acid, and in fourteen days it was free from pus. This was the first time in fifteen years that he had passed clear urine. The dose of the urotropin was gradually diminished, and discontinued altogether in a couple of months. There was no return of the trouble.

Epistaxis Cured by Poultices.—ROCHE (*Brit. Med. Jour.*, December 10, 1898) has used with success for stopping a nose-bleed a very hot poultice on the back of the neck. This simple treatment has never failed him, and has succeeded in a number of instances when other remedies, such as compression, ice, and astringents, had failed to stop the bleeding.

Foreign Body in the Trachea Removed by Intubation.—SEVESTRE (*Zeit. f. prak. Aerzte*, November 28, 1898) passed a laryngeal tube into the throat of a five-year old girl who had swallowed a glass bead about a third of an inch long and half as broad, and who suffered from attacks of asphyxia. In case the intubation had failed, it was to have been followed by a tracheotomy. Some minutes after the tube was in place, the foreign body was coughed out. It had lain in the trachea for more than six weeks.

Suture of Wounds in Veins.—SCHULTES (*Deut. Zeit. f. Chir.*, vol. 49, p. 624) says that the suture of a wound in the side of a large vein has so many advantages over the other methods of treatment of this accident, such as compression, lateral ligature, or the application of a clamp, that it is the only permissible procedure. Compression almost certainly produces thrombosis, a lateral ligature is likely to slip off, and clamping by no means insures the union of the edges of the wound in the vein. All of these disadvantages are avoided by the suture of the rent. Of the twenty-six reported cases of patients treated in this way, twenty-three recovered without complication, and death in the other three instances was in no way due to the venous suture.

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SATURDAY, JANUARY 21, 1899.

AN INVESTIGATION OF CHRISTIAN SCIENCE.

THE somewhat sudden appearance in this country of the cult known as Christian Scientists and the aggressive attitude shown by its disciples in the practice of "healing the sick" for hire has naturally aroused the opposition of the medical profession. This opposition, however, has been stimulated thus far by the natural instinct of saving the innocent and credulous from what ostensibly appeared to be the workings of a religious mania. Nothing, however, was definitely known of the foundation of this belief or the history of its organization. In order that the medical profession might have placed in its hands definite and complete knowledge of the basis upon which the claims of this sect are founded, the MEDICAL NEWS deemed it wise to institute a careful investigation. Dr. John B. Huber of New York kindly undertook the task and, after a careful and conscientious study of the subject, involving much time and arduous labor during the past three months, now presents to the readers of the MEDICAL NEWS the results of his searching inquiries.

No effort has been made to discuss this cult as a psychologic system. The investigation has been confined to an examination of the Christian-Scientists' method of treating the sick and of the results claimed and obtained in its application. In pursuance of this plan, twenty cases of people treated "in Christian Science" have been personally investigated and all the facts conscientiously recorded. So far as we know, this is the first attempt that has been made to investigate and follow carefully to their conclusion a series of cases designated by the Christian Scientists themselves as illustrative of the success of their work. The report of Dr. Huber sets forth the facts as he found them in each case. It gives an interesting and instructive picture of the disingenuousness of the leaders of this doctrine and reveals the emptiness of their pretensions as applied to the healing of the sick.

In an address delivered recently at a Christian-Science meeting in Brooklyn the statement was made that there are seven Christian Scientist churches in Greater New York and thirteen in the immediate vicinity, thirty-eight churches and congregations in the State of New York, and about thirty thousand adherents of the faith in the State. It was also claimed that there are one million Christian Scientists in this country. If this is true, it is time that a little sunlight of well-founded knowledge should be shed upon the mercenary motives and religious hypocrisy of the originators of the sect, their criminal responsibility for many deaths, and the utter emptiness of their claims when practically applied.

MEDICAL ADVERTISING FRAUDS.

IN one of the large department stores in a neighboring city, where one may find "all things needful from the cradle to the grave" (see advertisement), the employee who fits glasses in the most approved style and without charge was recently seen attracting custom to the store by examining the eyes of a presumable patient, but probably a fellow-clerk, in one of the large windows. His maneuvers soon drew a crowd, and doubtless many went away with a fixed purpose of soon submitting to the scientific investigation of the operation. The fact that he was using a head mirror with the light behind him instead of in front of him and that it is not easy to detect an error of refraction with a four-inch concave mirror did not inspire the passerby so forcibly as did the array of instruments displayed, including an ophthalmometer and compressed-air apparatus, and the

assumed look of intelligence upon the operator's face.

We are all familiar with the old clergyman and retired missionary who has a sure cure for consumption and who, in his gratitude for restoration to health, is anxious to send free the formula which has cured him. As well do we know that when this formula comes it will contain one or more ingredients which cannot be supplied by any druggist—and even the department store is unable to fill the order. When we write to this generous clergyman he informs us that the drug in question is very rare. It should be kept, however, by all first-class druggists but, if we have difficulty in obtaining it, for a few dollars he will send a supply of the medicine, and in the meantime he will find out why our druggists are so lax in this respect.

And now comes a supposedly reputable firm of manufacturing pharmacists which is trying to bunco the profession in a similar manner. A circular is sent broadcast extolling the virtues of a drug which cures cataract by stimulation of the absorbents and a dissolution of the opaque matter in the crystalline lens or its capsule. Appended to the report are a number of glowing testimonials, and there follows this note: "We will be pleased to furnish the address of any of the physicians whose testimony is given in the foregoing on request." Somewhat interested in this matter a request was made for the addresses of the physicians and it elicited the following circular letter:

We are in receipt of your favor of recent date, and pleased to know you are interested in ——. While we could refer you to a number of physicians who have used this remedy successfully, they have recently had so many letters, on account of our publishing their names in our circulars, you would probably not receive a reply for some time as, of course, they are very busy and could not answer all of them. Dr. —— of —— avenue, this city, has made a special study of —— in the treatment of cataract, and if you would address him, he could, no doubt, give you some information. We trust you will give the remedy a trial as, from the reports we have received from physicians who have used it, it certainly has done much good, and is worthy of a trial.

The four testimonials appended and presumably from medical men are from these sources, according to Polk (1898): The first is a resident of a parish in Louisiana with a population of 30. The next two are not found at all, but the fourth name appears twice. The first is a professor of gynecology in a Western city, the second a specialist in female troubles and private diseases. Evidently if cataracts are to be intelligently treated by such men we will have to revise our etiology of the disease. The one man whose name is given is a graduate of a homeopathic institution of but a few years' standing, and is in the employ of the concern.

It is an insult to the profession to ask its members to essay a trial of any therapeutic measure upon such testimony, and is another bit of evidence that the whole system of testimonials and testimonial-giving is clap-trap and a fraud.

PROFESSOR BEHRING AND HIS REWARDS IN GERMANY.

IT is announced that Professor Behring and Dr. Ruppel of the University of Marburg have applied for a German patent for a serum to be used in the treatment of tuberculosis. According to the wording of the application, what the inventors claim to have discovered is "a method of preparing from tubercle bacilli or from cultures containing tubercle bacilli, a highly toxic substance capable of producing immunity to the effects of the tubercle bacilli."

When his application for an American patent for diphtheria serum caused such vigorous protest on the part of the medical press all over the world, Behring said that the rewards of a medical investigator were so small in Germany if he followed the beaten paths of medical custom in giving his discoveries to the world, that he had made up his mind to break with precedent in the matter and reap, if possible, the commercial advantages of exclusive rights in his remedy. In the light of what our foreign correspondent wrote after a visit to Marburg (MEDICAL NEWS, May 4, 1898), it is easy to see how flimsy is Behring's excuse for entering the commercial field under the banner of the Höchst Farbwerke.

Shortly after the importance of his discovery became assured, Behring received the call to the Chair of Hygiene at Marburg. The salary is not princely; no German university Professor's is. Owing to peculiar conditions, however, and to the fact that Prussia confiscated the revenues of the Duchy in 1866, and that it has been the constant effort of the Prussian government to keep Marburg on a higher

plane than the rival and neighboring University of Giessen in the Duchy of Hesse, Marburg has been especially favored among the Prussian universities, and has always had an ample revenue. A magnificent set of laboratories is located here, of which Behring's is not the most poorly equipped. In his position he has had the privilege of an assistant, to whom he might delegate practically all the drudgery of teaching, reserving his own time for the more important work of investigation.

Most scientific investigators would be apt to consider this ideal. Marburg is beautifully situated in the valley of the Lahn. It rivals in the picturesqueness of its situation though not, perhaps in historic associations, the far-famed Heidelberg, or Bonn, or Jena. All this surely was no unsubstantial reward for Behring's part in the serum discovery. Then he became the diphtheria-antitoxin expert for the Höchst manufactory, a huge concern which employs some 9000 men, mostly in the manufacture of dyes from coal-tar. In connection with this they manufacture coal-tar derivative products for use in medicine. It is this concern which owned the antipyrin patent, in which there has been millions, and it is its success with this that has tempted it into the antitoxin field. Shortly after Behring's connection with the Höchst concern began he erected a laboratory on the heights overlooking Marburg. It is most picturesquely situated above the town, and is itself an imposing granite building of striking beauty architecturally. It is here that of late most of his investigations have been carried on, though his apparatus for evaporation of tubercle-bacilli cultures without the destruction of the bacilli, by means of vacuum chambers, is at the university laboratory down in the town.

To pretend that a man situated like this *needs* to violate all the principles which so far the profession has kept sacred is carrying the plea to too great length. It is plain that it is the money-making side of the question alone that has influenced the medical scientist to depart from a consecrated usage to ask for exclusive rights in the sale of his remedies. Every medical man is bound, then, to oppose as far as he is able, the grasping spirit it implies. Not alone the present issue is at stake but the profession must give a lesson which will impress others who may become inoculated with the commercialism so rife at present. It is quite within the range of possibility that a thoroughgoing inflammatory reaction in the body medical now would produce enough mercenary antitoxin to make its members immune against attacks from this insinuating microbe for some time to come.

THE SUCCESS OF GALL-STONE SURGERY.

THE fact that any one surgeon has performed one-hundred operations for gall-stones is in itself quite worthy of mention. But a German surgeon named Kehr has the remarkable record of 360 laparotomies of this character, 151 of them being performed in the last two years. Kehr lives on the north side of the Hartz Mountains, in Halberstadt, a town of less than 40,000 inhabitants, which up to the present time has been familiar to American doctors chiefly on account of its curiously carved wooden houses, some of which date back to the Fourteenth Century. It is not much more than one hundred miles from Berlin, and the whispers of jealous colleagues must have reached the ear of Hans Kehr, for he feels obliged to explain why he should be called upon to operate upon patients suffering from gall-stones at the rate of six a month, while his more celebrated professional brethren in the larger cities have to content their souls with a dozen cases a year. The reason given is that the physicians in the region about his town have become very proficient in making the diagnosis of gall-stones, and knowing the good results which follow an operation done in the early stages of this trouble, they lose no time in persuading their patients to go to Kehr. The difference between German methods and our own is strikingly illustrated by the fact that one physician who has been especially successful in getting his patients to submit to operation, backs up his advice by the withdrawal of morphin in case the patient does not agree with him. This measure, he says, is well-calculated to help the patient decide upon an operation.

However, the results obtained by operation are so good that it seems allowable to resort to almost any measures to induce the patient to agree to the removal of his gall-stones; and the low mortality and permanency of cure are of course the chief reasons why Kehr has been able to go on performing these operations at an ever-increasing rate. He numbers

among his patients people from all Europe, as well as from the various German provinces.

The mortality in these 360 cases, irrespective of the condition of the patient at the time of the operation, is 11.7 per cent. If deaths from other causes, such as carcinoma, suppurative cholangitis already advanced at the time of operation, and complicating operations, such as gastro enterostomy, are omitted, there remains only twelve deaths in 327 laparotomies, or 3.8 per cent. mortality. That is, indeed, a low figure for an operation which is at best a difficult one, and which often requires three or four hours for its completion. But the results in some special classes of cases are even better. Thus cystostomy was performed upon 180 patients who had stone in the cystic duct or in the bladder. Only three of these patients died, in all of whom it was found impossible to suture the gall-bladder to the parietal peritoneum.

Kehr believes in making the details of operation as simple as possible. He has only one assistant and one nurse. No gloves are worn, but one-half hour is spent in sterilizing the hands, and occasionally during the operation the hands are washed with bichlorid and normal salt solutions.

Kehr's article is full of suggestions, and is heartily recommended to every surgeon. It is No. 225 in *Volkmann's klinische Vortraege*. He emphasises the importance of determining before operation not only the presence of a gall-stone, but its exact situation. Thus, if there are impacted stones in the common duct, it would be the worst treatment in the world to open the gall-bladder and so destroy the pressure of bile which, if left to itself, might drive the gall-stones forward into the intestine. He never operates, therefore, on a patient in an acute attack of closure of the common duct. He never operates upon carcinoma of the common duct or pancreas; at most, nothing more than an exploratory laparotomy is done in order to make sure of the diagnosis. Patients over sixty years of age who have jaundice and slight colic may be considered in most cases to have carcinoma.

Slight distention of the gall-bladder after some operations causes a spasm of its walls and pain. This occurs when the patient is fasting. It is of benefit to give such a patient a meal even in the middle of the night, as the presence of the food causes the bile to flow into the intestine instead of into the bladder. The "ideal" operation, that is, suture of the gall-bladder and its return to the peritoneal cavity, is risky, and its originator, Czerny has abandoned it. The drainage of the bladder for a few days is a help toward recovery and not a drawback.

Kehr takes a bright view of the future of gall-stone surgery, and it is not to be wondered at that he does. His figures are as good as, or better than, those obtained in the operative treatment of appendicitis. Autopsies show that great numbers of people have gall-stones without having suspected it. The proportion is at least one in thirty, and some counts make it as much as one in ten. Undoubtedly, most of these persons have at some time suffered from symptoms, the cause of which was not recognized by them or their medical attendants. With the popularization of this subject, and the finer differentiation of abdominal pains by the profession and laity alike, it is not unreasonable to suppose that ten years hence cholecystostomy and choledochotomy may be as frequently performed as appendectomy is to-day.

ECHOES AND NEWS.

Dr. Quinlan's Appointment.—Dr. Francis J. Quinlan of this city has been appointed Laryngologist and Rhinologist to Charity (City) Hospital, Blackwell's Island, by order of the Commissioner of Charity.

Psittacosis.—This infectious pneumonia spread by parrots has broken out again in a number of Italian towns. Some years ago it prevailed quite extensively, but decrees of municipal authorities forbidding the keeping of parrots in private houses put an end to the epidemic.

Associated Physicians of Long Island.—The regular annual meeting of this society will be held Saturday, January 21st, at the Union League Club, Brooklyn. The scientific session is scheduled for three o'clock in the afternoon, and in the evening dinner will be served at seven.

Health in Havana Camps.—Up to this writing there are three cases of suspected smallpox in the 161st Indiana Regiment. The sick are carefully isolated, and the entire regiment remain in quarantine inside the regimental camp limits. There are 119 men in the general hospital.

Revolt against Contract Medical Service.—The physicians of Oneida, N. Y., have banded together to compel the town to pay regular rates for professional visits to the

town paupers. Every doctor in town signed a paper agreeing not to bid as heretofore for the contract to care for the sick paupers, and an advertisement asking for bids has met with no response. This action is one of the symptoms of a growing revolt among the doctors up the State against contract medical service either for municipalities or for benefit societies.

Another Dispensary Bill.—It is possible that at last the abuse of medical charities in this State is to be controlled if not corrected. Although the Sullivan dispensary bill was defeated at Albany last winter, the necessity for reform was admitted on all sides. A bill has been agreed upon for introduction into the Legislature by representatives of the three State medical societies and the dispensaries, which, if it becomes a law, will in great measure correct the evils now existing. The dispensary committee are T. L. Frothingham, Esq., Dr. D. B. St. John Roosa, and J. G. Cannon, Esq.

Dangers of Tuberculosis.—The report of the special committee of the New York State Senate to investigate the spread of tuberculosis, the establishment of better sanitary conditions for consumptives and the protection of the public has been presented. It finds that consumption is contagious, and recommends that the State establish a hospital or hospitals for the treatment of cases of tuberculosis, the same to be located somewhere in the forest preserve in the Adirondack Mountains, the site to be selected by the trustees approved by the Forest Preserve Board. An accompanying bill provides for an appropriation of $200,000, the appointment of a commission to locate a site (the Governor to appoint), and the appointment of examining physicians, two in number, in each of the cities of New York, Buffalo, and Syracuse to examine patients and commit them by certificate. Patients able to pay, or having relatives able, must do so. A resolution was also offered that 4000 copies of the report be printed for distribution.

Dr. Charles W. McManus.—The Medical Board of the Willard Parker and Riverside Hospitals, having learned with profound regret of the death on January 5, 1899, of Dr. Charles W. McManus, late Interne Physician to the Hospitals, the following preamble and resolutions were unanimously adopted:

WHEREAS, It has pleased the Almighty to remove by death Dr. Charles W. McManus, Interne Physician to these hospitals, and

WHEREAS, Dr. McManus has made for himself in our hospitals an enviable record for conscientious and painstaking work and unremitting zeal in the performance of his duties, and has gained the esteem and affection of his colleagues by his admirable qualities, therefore, be it

Resolved, That this Board deeply regrets the cutting short of so promising a career at the very beginning of professional life; and be it

Resolved, That we offer to the father of Dr. McManus our deep sympathy in the terrible loss he has sustained in the death of this his only son; furthermore, be it

Resolved, That a copy of these resolutions be transmitted to the Board of Health, the father of the deceased, the medical journals, and spread in full upon the minutes of this meeting.

DR. JOHN W. BRANNAN, President.
DR. H. W. BERG, Secretary.

The State Charities of New York.—The State Board of Charities presented its annual report for the year 1898 to the Legislature this week. It states that the inmates and beneficiaries of State and other institutions within the Board's jurisdiction aggregate more than 2,500,000, and the expense of maintenance reaches nearly $22,000,000. Referring to the Dispensary Bill of last year which passed the Senate but was not reported from committee in the Assembly, the report declares: "The Board reiterates its belief that legislation is required to prevent the abuse of medical charities, now so prevalent in New York City, and also the overgrowth of such charities, and hopes that a statute which will be satisfactory to all who are desirous of rectifying such abuses may be enacted." The report of the Special Senate Commission on the spread of tuberculosis was also made and accompanying it was a report upon the spread of tuberculosis in New York City, written by Arthur R. Guerard of New York. Dr. Guerard made a special investigation of the conditions in the Fourth and Sixth Wards. In the Fourth Ward, with a population of 18,323, there are 663 dwellings and an average of 27.6 persons to each house. In 248 out of the 663 dwellings tuberculosis was found, there being in three years 541 cases. The doctor says: "Such houses would seem to be permanently infected and should be thoroughly renovated from top to bottom, or better, condemned and torn down." It must be borne in mind that this report is based upon investigations during 1896. The drastic sanitary measures put in force by the New York Board of Health during and since that year have reduced these percentages somewhat.

Medical Society of the State of New York.—The ninety-third annual meeting of this Society will be held January 31 and February 1 and 2, 1899, in the City Hall, Albany, commencing at 9.15 A.M. on the 31st, and ending at 1 P.M. on the 2d. Preliminary program: Tuesday Morning Session. President's inaugural address; reports of officers and committees; executive business. I. "Fracture of the Cervical Vertebræ, with Specimen," Chauncy P. Biggs, Ithaca. II. "An Unusual Injury to the Kidney, with Specimen," W. D. Garlock, Little Falls. III. "Formaldehyd Disinfection," W. H. Park, New York. IV. "The Close Relation between the Nasal and the Cranial Cavities, and between Nasal and Cranial Disease," Wm. C. Krauss, Buffalo. V. "The Importance of Early Examination and Treatment of Catarrhal Mouth-Breathing in the Public Schools," Clarence C. Rice, New York. VI. "Some Practical Points in the Diagnosis of the More Common Forms of Nasal Obstruction," Charles N. Cox, Brooklyn. Discussion opened by Robert C. Myles of New York. VII. "Intestinal Resection; Personal Experience," W. L. Cuddeback, Port Jervis. VIII. "The Dangers of the Long Tube Nursing-Bottle," Ernest Wende, Buffalo. IX. "The Detection of Tubercular

Infection in Second-Hand Clothing," Wm. G. Bissell, Buffalo. Election, by districts, of members of the committee of nominations at close of morning session. Tuesday Afternoon Session. X. "The Improvement in General Anesthesia on the Basis of Sleichs' Principle of Adapting the Boiling-Point of the Narcotic to the Temperature of the Body, with Special Reference to Anesthol," Willy Meyer, New York. XI. "How to Treat Shock," R. H. M. Dawbarn, New York. Discussion by Henry Flood, Elmira. XII. "Fever in Aseptic Surgery," B. Farquhar Curtis, New York. XIII. "The Use of Streptococcus Antitoxin in Phlegmonous Inflammations, with a Report of Cases," A. T. Bristow, Brooklyn. XIV. "Puerperal Insanity—a Cursory View for the General Practitioner," Carlos F. Macdonald, Pleasantville. XV. "Military Medicine and Surgery," Tuesday afternoon, 4.15 o'clock. (1) "Hygienic Camps," H. R. Hopkins, Buffalo. (2) "Typhoid Fever in the 7th Army Corps," H. C. DeForest, Brooklyn. (3) "The Character and Treatment of the Gunshot Wounds of the Recent War, with Cases," H. B. Delatour, Brooklyn. (4) "Cardiac Deficiency as Observed in the Soldiers of the Late War," Henry W. Fairbairn, Brooklyn. Discussion by A. Vander Veer and W. W. Potter. Tuesday Evening Session: XVI. "The Relations of Preventive Medicines to Political Economy," George W. Brush, Brooklyn. XVII. "The Relation of the Consumptive to the State," John H. Pryor, Buffalo. XVIII. "Microscopic Projection," William Halles, Jr., Albany. XIX. "The X-Ray from the Static Machine, and Some Practical Points in Medicine and Surgery," Louis A. Weigel, Rochester. XX. "Skin Diseases," illustrated, G. W. Wende, Buffalo. XXI. "Needle in the Knee-Joint; Suppuration; X-ray; Operation; Cure," William Maddren, Brooklyn. Wednesday Morning Session, Section in General Medicine, Supervisors' Chamber, City Hall: I. "Acute Gastro-Intestinal Rheumatism," Glenworth R. Butler, Brooklyn. II. "Chlorin in the Treatment of Enteric Fever," R. W. Wilcox, New York. III. "Poliomyelitis Anterior Acuta in Children over Five Years, with Cases," Charles Mason, Peekskill. IV. "The Treatment of Exophthalmic Goiter by Galvanism," H. DeV. Pratt, Elmira. V. "Hysteria," Landon Carter Gray, New York. VI. "The Nervous System in the Pathogenesis of Albuminuria," J. H. Brownlow, Ogdensburgh. VII. "Arteriosclerosis in Its Bearing on Apoplexy, or Cerebral Hemorrhage and Thrombosis," E. D. Fisher, New York. Wednesday Afternoon Session, General Medicine: VIII. "Tonsorial Hygiene, and State Control of Barber-Shop Sanitation," A. Walter Suiter, Herkimer. IX. "Hydrotherapy in Chronic Diseases," Simon Baruch, New York. X. "Abscess of the Lung; the Clinical Data of Two Successfully Treated Cases," Henry L. Elsner, Syracuse. XI. "Pneumonia in Infants; Diagnosis and Treatment," Wm. P. Northrup, New York. XII. "The Relation of Classical Literature to Medical Education," C. De La Montayne, Port Ewen. XIII. "Nervous Dyspepsia," Grace Peckham Murray, New York. XIV. "Weak Heart," C. M. Rexford, Watertown. XV. "Lithemia," B. C. Loveland, Clifton Springs. Section in General Surgery, Common Council Chamber, City Hall: I. "Two Unique Cases of Vesicovaginal Fistula," John O. Polak, Brooklyn. II. "Operation for the Repair of the Recto-vaginal Septum," Ralph Waldo, New York. III. "The Treatment of Uterine Hemorrhage with Stypticin," Herman J. Boldt, New York. Discussion opened by A. Ross Matheson, Brooklyn. IV. "The Relative Merits of the Different Operations for Uterine Suspension," John B. Harvie, Troy. Discussion opened by A. P. Dudley, New York. V. "The Advantages of the Suprapubic Over Vaginal Celiotomy," J. W. Whitbeck, Rochester. VI. "The Advantages of Vaginal over Suprapubic Celiotomy in Certain Diseases of the Uterus and Appendages," H. T. Williams, Rochester. VII. "The Death-Rate in Abdominal Surgery," W. Gill Wylie, New York. VIII. "The Relations of Movable Kidney and Appendicitis to Each Other, and the Practice of Modern Gynecology," Geo. M. Edebohls, New York. IX. "An Experiment in Ovarian Transplantation," J. H. Glass, Utica. X. "Conservative Treatment in Diseases of the Ovary and Vermiform Appendix," Robert T. Morris, New York. Section in Surgery: XI. "The Management of Lateral Curvature of the Spine," Reginald H. Sayre, New York. XII. "Lateral Curvature and Pott's Disease of the Spine; the Improved Aluminum Corset for Their Treatment," A. M. Phelps, New York. XIII. "Should Tubercular Sinuses Be Treated Surgically or Not?" Virgil P. Gibney, New York. XIV. "The Treatment of Umbilical Hernia," Wm. B. De Garmo, New York. XV. "Diagnosis and Surgical Treatment of Gall-stones, with a Report of Cases," E. W. Mulligan, Rochester. Discussion opened by W. W. Seymour, Troy. XVI. "Intra-ocular Tumors; Their Frequency, Prognosis, and Treatment, with Specimens," Herman Knapp, New York. XVII. "The Present Operation for Senile Cataract," D. B. St. John Roosa, New York. Discussion opened by Peter A. Callan, New York. XVIII. "The Surgery of Mammary Cancer," Daniel Lewis, New York. XIX. "Further Study into the Nature and Frequency of Cancer," Roswell Park, Buffalo. Discussion opened by Joseph D. Bryant, New York, and H. R. Gaylord, Buffalo. Joint Session of Sections to Hear Addresses: "Some Problems Associated with Typhoid Fever," William Osler, Baltimore, Md. "The Disinfection of the Alimentary Canal," Abraham Jacobi, New York. Wednesday Evening Session: Anniversary address by the president; annual dinner. Thursday Morning Session; Business Session and Reports of Committees: I. "A Suture Material Suitable for Abdominal Surgery," R. J. Wilding, Malone. II. "A New Lap-Suture in Abdominal Surgery," Wm. E. Butler, Brooklyn. III. "The Treatment of Boils and Carbuncles," Wm. O. Stillman, Albany. IV. "The Limitations of Surgical Work in Country Practice," Geo. M. McComb, Frankfort. V. "The Differentiation of the Chronic Forms of Rheumatism," Louis F. Bishop, New York. VI. "Life Insurance from a Professional Standpoint," Josiah Hasbrouck, Port Ewen. VII. "An Additional Reason for Requiring in Almshouses Measures for the Prevention of Purulent Ophthalmia in Infancy," Lucien

Howe, Buffalo. VIII. "The Scientific Aspect of the Mind Cure," S. A. Russell, Poughkeepsie.

SPECIAL ARTICLES.

THE PRESENT STATUS OF OPINION UPON THE USE OF QUININ IN MALARIA—A REPLY TO DR. HARE.

IN the MEDICAL NEWS for January 7, 1899, we published a letter from Dr. Deffenbaugh of St. Joseph, Mo., criticizing a special article under the above title in the NEWS for December 17, 1898. He substantially agrees with the views put forth in our article but thinks that as certain conclusions therein stated are still in doubt they should not be expressed so dogmatically. In extenuation of what we are ready to admit is a dogmatic declaration on our part, *viz.:* that quinin should be used in every case of acute malarial manifestation, no matter what its type or what complication may be present, albuminuria, nephritis, hematuria, or hemoglobinuria, provided such complication is malarial in origin, the following consideration is submitted. It is a condition not a theory that the general practitioner faces in treating a case of malaria accompanied by such complications. Recent discussion and ill-advised editorial comment had made, we felt sure, many a practitioner hitherto confident in the efficacy of quinin, skeptical about its use in cases in which these complications occurred. For him we looked up the authorities on the subject and having quoted Osler and Laveran, Bacelli, and the chief officer of the Royal Niger (Central Africa) Company, we justifiably, as it seems to us, laid down the practical general rule: In malaria always use quinin no matter what the condition. It is clear from the context that we did not have reference to chronic malaria and to mention idiosyncrasies to quinin seemed unnecessary. We were not writing a treatise but drawing a practical conclusion supported by the world's best authorities in malaria for the guidance here and now of the busy practitioner.

In the *Medical Record* for January 7, 1899, Dr. H. A. Hare criticizes "in friendly spirit" our position as to the use of quinin. May we then in the same attitude of friendliness be allowed to reply. With all due respect to Dr. Hare as an authoritative teacher of therapeutics we shall in the interest of truth endeavor to point out the fallibility of his argument and his position on this question as well as substantiate by confirmation from the best authorities the correctness of our own.

Dr. Hare thinks that articles such as ours "will lead the practitioner to prescribe quinin without studying his cases thoroughly and when the condition is really not malaria at all." May we say that our article was on "the use of quinin in malaria," not in other diseases falsely diagnosed as malaria. Dr. Hare says in closing his article that quinin must be "mixed with brains" to get good results. That is all very true, but the poor fellow who begins by missing the diagnosis will probably not have enough of the second ingredient mentioned to be able to spare any of it for the treatment of his patients. Special articles are not written for him and should not be criticized from that standpoint.

Dr. Hare quotes us as saying that "the voices of our Southern medical men, of the medical men of India and of Brazil and Italy are as a unit in favor of the universal use of quinin." This is a misquotation and a serious one. What we said was that they are "a unit against Koch." The statement of Koch that they are especially united against it is explicitly set forth in the preceding paragraph. It is that quinin is given too freely in the tropics and that so-called malarial hemoglobinuria is practically *always caused* by too much quinin. Mark the words *is caused* by quinin, not is made worse by it. The present writer heard that address of Koch and remembers well that Koch said he had never seen hemoglobinuria in a patient unless previously treated by quinin. This is, of course, the expression of a man possessed of a most limited experience in malarial hemoglobinuria and there can be no question of the unity of authoritative sentiment against him.

Dr. Hare then takes up the recent literature upon the use of quinin in hematuric and hemoglobinuric conditions. His second quotation is from *La Presse Medicale* for December 3, 1898. He says "Vincent informs us that American statistics demonstrate that the greater number of patients survive that do not receive quinin." Just what the last part of that sentence may mean is not very clear in its loose English dress; the first part is another serious misquotation. What Vincent says is "Les statistiques de *certains medecines* Americains tendent a montrer" ("The statistics of *certain American* physicians *tend to show*" etc.), quite a different thing from "American statistics demonstate." Vincent himself a little further on in the same article advises the use of quinin in doses of 8 to 15 grains even in the presence of hemoglobinuria. Even supposing the original quotation correct, why go to France for American statistics? And who is Vincent that his opinion on malaria should be quoted so seriously?

Dr. Hare quotes Dr. Meek of Arkansas, who protests in the *Therapeutic Gazette* "in the name of humanity" against the use of quinin in malarial hematuria. "In the name of humanity" is expected to add force we suppose to his protest. But if medical editors would publish them we would have in our medical journals no end of protests "in the name of humanity" and everything sacred, against vaccination, antitoxin, and the use of mercury in syphilis and any other good therapeutic agent that can be named. An English medical editor once said in somewhat Johnsonian style: "Intensity of objurgation in matters therapeutic, whether positive or negative, is usually in inverse ratio to the authority of the man who uses it and usually in inverse ratio also to the value of the suggestion he has to offer. It is only a great authority who can commend or condemn a remedy with a mlid judicial spirit." The old editorial formula has not lost all its application even in our day.

This is what Dr. Meek says: "During the first ten years of my professional life I treated quite a number (si:) of cases with large doses of quinin, and the mortality was at least fifty per cent. Since that time I

have treated quite a number (sic iterum) without quinin and the mortality has been eighteen per cent." We scarcely think it invidious criticism to say that statistics with inexact percentage mortalities and indefinite numbers of cases are not very valuable to the seeker after medical truth. Dr. Meek quotes Dr. Guise who treated without quinin four patients with malarial hematuria without a death, after having treated twenty-five patients with quinin with a mortality of fifty per cent. Here is something tangible but the number of cases is so small that no practical conclusion from the result obtained is justifiable.

These we suppose are samples of "the statistics of certain American physicians," quoted by Vincent, that tend to show that the mortality of malarial hematuria is less when treated without quinin.

A number of Greek physicians, Karamitsas, Rizapoulos, Pampoukis, and Chamatianos, are quoted by Dr. Hare as having met with cases of chronic malaria in which quinin caused hematuria whenever administered. We find this same collection of names, with Thomaselli and Carreau, whom Dr. Hare quotes also (perhaps from this identical chapter), in Laveran's book in discussing what the French call *fievre biliaire hemoglobinurique* (bilious hemaglobinuric fever). Now this affection is, in Europe, as Laveran tells us, frequent only in Greece. It is very doubtful if it is ever due to uncomplicated malaria. Various microorganisms have been isolated that have been thought to bear an etiologic relation to it. Vincent's experience with it as reported in the article quoted by Dr. Hare is, we believe, not an unusual one. In only one case out of five was Vincent able to demonstrate the plasmodium malariæ in the blood, and in only two out of five autopsies did he find characteristic lesions of malaria. It is probable that certain cases at least of the affection are not malarial at all. The disease occurs very commonly in tropical countries and it is probable that its careful differentiation from purely malarial forms of hemoglobinuria will do much to set at rest any lingering doubts as to the use of quinin in the latter condition. Meantime, such authorities as Osler, Laveran, Bacelli, and Crosse, the latter having seen a great deal of the disease in Central Africa, advise the use of quinin in hematuria and hemoglobinuria if there are present the symptoms of an acute malarial process.

Finally comes the question of malarial nephritis and the use of quinin during its existence. With regard to the frequency of nephritis after malaria Dr. Hare quotes the statistics of the *Journal of the American Medical Association*. These we have already condemned editorially, because they give an altogether erroneous idea as to the frequency of malarial nephritis. Osler found albumin in the urine of 46.4 per cent. of his patients and Thayer found tube casts in 17.5 per cent. of his patients; but Thayer in summing up as to the occurrence of nephritis after malaria in all the Johns Hopkins cases found that among whites the renal affection occurred in only 1.1 per cent. of the patients. To quote the larger percentages as to albuminuria and tube casts without this conclusion is to give the idea that malaria produces nephritis in one out of every six patients or more instead of about one in a hundred cases. We quoted in our article Rem Picci's statistics of 7000 cases of malaria at Rome with 80 cases of nephritis, exactly the same percentage as Thayer found among the whites in Baltimore. These are evidently reliable data; and very much concern about the possible development of nephritis is not demanded of the practitioner.

There remains the question of quinin irritating the kidneys. Quinin has been given freely in innumerable numbers—millions—of cases and it has never been shown that patients who had taken it had developed nephritis any oftener than people who had not. Dr. Hare says that he has shown that in toxic doses it leads to inflammation of the kidneys. But so do a great many drugs that in therapeutic doses are perfectly harmless. We at least, do not advise the use of quinin for malaria in *toxic* doses.

Dr. Hare has collected from medical literature some twelve cases in which quinin seems to have acted as a kidney irritant. Most of them present at the same time other genito-urinary symptoms, showing that there was some intercurrent source of irritation or that the patients had probably an idosyncrasy for the drug. He surely would not wish us because of these few cases to modify our ideas as to the administration of quinin in malaria. Many cases of skin irritation from quinin might be collected, yet surely no one would argue therefrom that quinin is irritant to the skin in every case and must be administered always with special reference to that fact.

For idiosyncrasy no rules can be laid down and in our presentation of a short article on quinin we did not think it necessary to refer to it at all, leaving something to the good sense of our readers.

After this discussion of Dr. Hare's authorities, since he lays no claim in his article to any clinical experience in the matter that would make his personal opinion of value, we may be permitted to reiterate our former opinion as to quinin in malaria. In cases in which there are convincing symptoms of active malaria the practitioner will err (if it is an error) with the the world's best authorities on malaria in giving quinin freely even though hematuria, hemoglobinuria, or albuminuria be present.

SCIENTIFIC AND EDUCATIONAL REFORMS.

MEDICAL NOTES OF THE JOINT MEETING OF THE AMERICAN PHYSIOLOGICAL SOCIETY AND THE AMERICAN PSYCHOLOGICAL ASSOCIATION, HELD AT COLUMBIA UNIVERSITY, NEW YORK, DECEMBER 29, 1893.

(Continued from page 56.)

PROFESSOR F. S. LEE read a paper on the nature of muscle-fatigue, in which he said that so far it has been the custom to deduce our knowledge of muscle-fatigue entirely from the frog's muscle. By a comparison between the fatigue-curves of the muscles of the frog, the turtle, and the cat he showed that there are special features of the problem for each kind of muscle, so that the general principles as now taught in physiology will require modification.

Fatigue seems to be induced in the muscle by

the presence of potassium lactate produced during muscular metabolism. When this substance is brought artificially in contact with the excised muscle fatigue rapidly develops, as shown by the curves of contraction obtained after electric stimulation. The same effects are not produced by bathing the muscle during its time of activity with sodium lactate or kreatin, though these substances have been claimed to act also as fatigue-producers. Muscle-fatigue would seem to be due, as far as our present knowledge goes, to the presence of potassium lactate, though perhaps other substances as yet unknown are associated in the effect. Fatigue differs from exhaustion, inasmuch as the elimination of the toxic products restores the muscle to its normal condition, while in exhaustion muscle-elements have been consumed and must be supplied again by the slow processes of vital elaboration of nutritional material.

The biologic significance of fatigue then would seem to be that it is a protective process, guarding the muscle against exhaustion by paralyzing function before overexertion can use up too much of its store of energy. The same biologic significance and protective property would seem to attach to brain fatigue, which prevents the much more serious condition of brain exhaustion. No changes can be demonstrated in nerve-cells after fatigue; while after exhaustion Hodge found vacuolation and lessened staining power, especially of the nuclei, so that the need of this protective influence of fatigue can be readily recognized.

G. C. HUBER read a paper on observations on the innervation of the intracranial vessels, in which he presented an extremely interesting and important fact. Some years ago Professor Obersteiner of Vienna published some observations showing that certain nerves had end-plates in the walls of intracranial blood-vessels; not much work has been done on the subject since. Huber has been able to demonstrate a set of medullated and non-medullated nerve-fibers, these last in plexuses, that accompany the blood-vessels. The medullated seem to end in the adventitia and to be sensory nerves, that is, nerves carrying impulses from periphery to center of the nervous system. The non-medullated are distributed to all the intracranial blood-vessels in perivascular plexuses as in other parts of the body. Serial sections show that they terminate in the unstriped muscular wall of the blood-vessels. It seems clear, then, that the same factors that influence, and the methods of action that hold for, vasomotor nerves all over the rest of the body, may be considered to apply to the intracranial tissues also.

PROFESSOR G. T. W. PATRICK of Chicago read a paper on the confusion of tastes and odors. He has had the opportunity, a rather rare one, of making detailed observations in a case of complete anemia, and has availed himself of it to demonstrate the fact that the two senses, taste and smell, overlap each other in function much more than is thought, and that contrary to the general impression, taste seems to count for but little in many things usually thought pertaining to it alone.

This patient, a woman of good intelligence, has been completely anemic from birth, being unable to recognize any of the nine classes of odors under which odorous substances have been grouped. Substances such as ammonia, chloroform, ether, and pyridin she was able to recognize, but this was evidently due to touch rather than smell, so much of these volatile substances coming in contact with the mucous membrane of the nose as to excite sensations in the tactile nerve-endings there.

Substances in common use in the household, though his patient was an experienced housekeeper, she utterly failed to recognize when blindfolded. Milk was usually mistaken for water, barley water, broth, etc. None of the ordinary meat-broths were recognized, and not even identified as broths, unless there was salt in them. Quinin, though the patient had such an aversion for the drug that she refused to allow her medical attendant to prescribe it for her under any circumstances, was pronounced by her, with eyes bandaged, to be pulverized coffee. Shortly before she had mistaken an ordinary decoction of coffee for a solution of quinin. Tea and coffee were utterly indistinguishable to her, though she was a great lover of coffee, and, of course, thought herself a great connoisseur.

Professor Patrick, after making these observations on the pathological subject, tried a series of comparative experiments on her and two perfectly normal, intelligent women. Even with good smelling powers they failed to recognize milk, failed to distinguish meat-broths, mistook one meat for another, veal and pork for turkey and chicken, and the like, when blindfolded. If they held their noses, tea and coffee became not only indistinguishable, but unrecognizable, and were merely said to be bitter. Out of twenty such trials with coffee, only once was it recognized.

Professor Patrick suggests that a great economy in household expenses may be accomplished by merely blindfolding the family before sitting down to table. If the influence of smell is removed by some contrivance at the same time, most of the savory dishes and drinks now so popular may be replaced by the simplest, cheapest materials.

PROFESSOR C. F. HODGE (with H. H. Goddard) read a paper on possible ameboid movements of dendritic processes of cortical nerve-cells. Dr. Hodge has never been very much taken by the theory that would explain certain phenomena of psychology—sleep, hysteria, consciousness, etc.—by movements of the neurons and the making and breaking of connections between them because of contractions or extensions of their processes. It has seemed to him a little like tearing up railroads and tearing down telegraph lines every night in order to shut off communication for the resting hours.

He has attempted to put a question to Nature in the matter, and has gotten an answer. This he presents for what it may be worth, and makes no exaggerated claims as to the scientific value of the answer, though he considers it an encouragement to further serious work along this line. He took two young puppies and killed one of them early in the morning after it had had a good night's sleep; the other he kept awake all day, which makes a

puppy very sleepy and tired by nightfall; he then killed this second one. Preparations of the cortices show in the case of the puppy kept awake all day a certain varicose condition of the dendritic processes of the cortical cells which is not to be found in the preparation from the untired dog. These varicosities may help to explain the cessation of neuronic contact which finally takes place in fatigue when sleep supervenes, according to the theory that attributes contractile properties to the neurons.

At the joint meeting of the Scientific Affiliated Societies the address of welcome was delivered by President Low of Columbia University, who, besides extending a cordial greeting to the assembled scientists, reminded them of how much had been done for education by such meetings and by the coordination of the different departments of education in a large university like Columbia.

Education is taking a more practical form in all departments, and for this modern science and scientific methods are mainly responsible. The meeting of a great body of scientific men is especially welcome to a great university. Those outside of educational circles thoroughly appreciate the practical tendencies in modern education and give them their meed of recognition. An anecdote might illustrate: Two young women were talking of a young man the other day, when one said, "Isn't he brilliant and learned?" The other said, "Well, he explained to me all about all the varieties of mistletoe the other day and the various plants upon which they are parasitic, but when he passed under it he did not seem to recognize it." There is a knowledge that is merely dry and unimproving, but its day is gone by.

Then followed the discussion upon advances in methods of teaching the various sciences. PROFESSOR CONKLIN of the University of Pennsylvania said that the teaching of zoology as at present organized presupposes laboratory work and demonstrations. The merely didactic lecture is practically a thing of the past. The new light that is guiding modern scientific teaching is the intimate union of research and teaching. The value of teaching in science is directly proportioned to its contact with the living sources of scientific advance. The teacher of science, to be successful, must himself be a contributor to knowledge. A new scientific fact discovered in a laboratory is the best possible stimulus to the work of all connected with the laboratory. It used to be questioned whether original research should ever be undertaken in laboratories meant for the training of undergraduates. This is no longer the case, and during the last few years not a few of some of the notable contributions to our scientific knowledge have come from undergraduate laboratories. The laboratory at Wood's Holl has given an excellent practical example of the value of this method. Other schools will advance in just the degree to which they imitate, as far as possible in their curricula, the Wood's-Holl methods.

PROFESSOR HUNTINGTON of Columbia University discussed advances in the teaching of anatomy. The most important feature of advance is the place deservedly given to comparative anatomy. This leads to the cultivation of the true scientific spirit in anatomical work. Time was when the quantity of facts, not the quality of the facts, given the anatomical student seemed to be the ideal of the teacher. This is getting to be so no longer. The museum of anatomy is no more a mere idle collection of curios, a storehouse for anomalies and monstrosities; it has become a library where the student may go for the illustration of the important parts of anatomy. Object-teaching has replaced theory. Demonstrations are given to small numbers of students, so that personal attention is given to each man. The lecture still has a place, but it is a limited one, a preparation of the student's mind for future demonstrations, not as used to be thought, a pouring-in of ready-made information in unlimited quantity. On the other hand, the danger is avoided of thinking that the study of models can replace the explanations so necessary for the proper understanding of the subject, so that the student may not justly say, "I asked for bread, you gave me a model."

PROFESSOR W. T. PORTER of Harvard University spoke of advances in the teaching of physiology. Professor Porter insisted on the thought so well expressed by President Eliot of Harvard that we must train for power, not for information. With the rapid advance in modern physiology and the immense amount of material it is necessary to absorb, in order to have a practical working knowledge of it, our only hope is to train in scientific methods. Certain subjects in physiology should be coordinated with related practical subjects. Laryngology and ophthalmology would especially benefit by this coordination, and would themselves react beneficially upon physiology. This would lead to putting certain parts of physiology later in the course than now, but that is a change not at all undesirable, and the correlation with practical medicine thus gained will be invaluable in the interest it will arouse in physiology.

The force now making for reform is irresistible. It is nothing less than that the mass of knowledge in every department of medicine is growing so huge as to overwhelm both professor and student. The only refuge lies in a more thorough mastery of the scientific method. The medical student must acquire power rather than information. Only thus will he be able to hold a steady course through the baffling winds and cross-currents of a veritable sea of knowledge.

PROFESSOR GAFONG of Smith College spoke on advance in methods of teaching botany. The day of published laboratory guides is going by. The personal influence of men is replacing the influence exercised over the student by methods, and the teacher is becoming the director of interested investigating students.

Death of an Entire Family from Pneumonia.—The following would seem a further demonstration of the infectious nature of pneumonia. Dr. H. Y. Magnum of Metropolis, Ill., died on December 26, 1898, from this disease; twenty-four hours later his only daughter died; three days after, his wife died; the following week his only son died, and information was received on the 10th inst. that the grandmother, the only remaining member of the family, had died—all from pneumonia.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

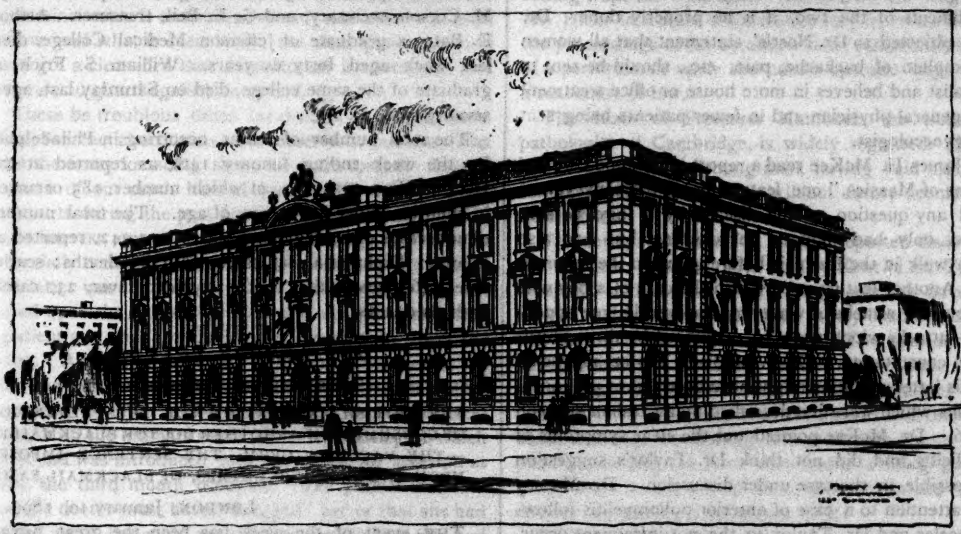
CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY—DISCREDITABLE PROFESSIONAL ADVERTISING—NEW LABORATORY BUILDING FOR THE UNIVERSITY OF PENNSYLVANIA—BENEFITS OF MINOR PELVIC OPERATIONS—SOME UNUSUAL FEATURES OF MEASLES—THE PHILADELPHIA MEDICAL CLUB—MEDICO-CHIRURGICAL ALUMNI ASSOCIATION—HOSPITAL GIFTS—PERSONAL NOTES—OBITUARY—HEALTH STATISTICS.

PHILADELPHIA, January 16, 1899.

THE Philadelphia County Medical Society began its semicentennial celebration on Saturday evening, January 14th, when Dr. J. Chalmers Da Costa delivered an address. He spoke of the existing conditions in each country and in every phase of life and after a review of the political and scientific status abroad, dwelt upon this country as it was in 1849, the year in which the Society's first meeting was held. Philadelphia, her lawyers, merchants, and physicians, her customs and her achievements of that time, were carefully gone over, and a short description of the personalities of the great medical men of that day was given. A contrast was drawn between the politicians of that day and this, and he stated that the Senate was not then a club of millionaires but a body of law-givers—not law-sellers. A careful review was given of the history of the Society and the good it has accomplished, and of a fight against the political appointment of an irregular physician to have charge of the Philadelphia Hospital. He made a plea for the appointment of a scientific man as coroner who should be authorized to make use of such material as he becomes possessed of and favored, also, the use of our municipal hospitals for clinical instruction. Of the original founders of the Society but one remains, Dr. Alfred Stillé, and Dr. Da Costa paid tribute to his part in founding the Society, and closed his address by recounting the advances in medicine made and those to be made in the future.

On Sunday evening the Reverend Dr. Kerr Boyce Tupper delivered a lecture on the "Ideal Physician" at the First Baptist Church.

Many of the profession in this city received a card a few weeks ago announcing that Dr. ———, Specialist in Female Diseases, could be consulted at such and such a time. The sequel was to be found in a daily newspaper advertisement which contained the man's name who "cured female irregularities." Last week a throat specialist sent cards to many physicians, together with reprints of various articles written by the advertiser, who is a reputable physician. Perhaps the comparison is hardly flattering but this practice of advertising favors quackery and is certainly anything but elevating.



New Laboratory Building for the University of Pennsylvania.

The accompanying illustration shows the proposed new physiologic, pharmacologic, and pathologic laboratory to be erected by the University of Pennsylvania for the use of its Medical Department. The main part of the laboratory building is 192 feet in length, and there are wings running back at each end 128 feet. Large student-laboratories are placed in the wings, while the front of the main building is divided into a number of special research-rooms, offices, and work-rooms of various sorts. On each floor to the rear of the center of the main building there is a special demonstration and lecture-room arranged in the form of an amphitheater. The animal house is a special building two stories high situated at the open side of the hollow square formed by the main buildings and the two wings. The cost of the building and equipment will be in the neighborhood of $300,000, and it is urgently hoped that a large part of this fund will be secured by contributions from the alumni.

At the County Medical Society on Wednesday evening, January 11th, Dr. George E. Shoemaker read a paper on "Some Cases Showing the Benefits of Minor Pelvic Operations," called for, he said, because of the tendency to overlook these minor, lesser procedures. The recorded cases were those in which the cervix was repaired, fissures cured, scar tissue removed, etc., and while it happened that the majority entailed two or three minor operations, some were questionably classed as minor.

In the discussion which followed Dr. Norris said he advocated better diagnostic power on the part of the general practitioner, which would cause him to send, properly, many patients to the specialist and criticised the gynecologic teaching which the student receives to-day, believing that it tends to make him a dabbler and as an instance stated that many men would hesitate to do a plastic gynecologic operation who think nothing of curetting a uterus, yet the latter is, in his opinion, the more difficult of the two, if it be properly done. Dr. Massey objected to Dr. Norris' statement that all women who complain of backache, pain, etc., should be sent to a specialist and believes in more house or office treatment by the general physician and in fewer patients being sent to the gynecologist.

Dr. James H. McKee read a report on "Some Unusual Features of Measles," one feature being the conveyance, beyond any question, of the disease by a third person, who not only had changed her clothing but had also taken a walk in the fresh air before going to the reported case. Another feature occurred in the case of a boy who had recurring attacks of what was apparently true appendicitis—attacks which were so diagnosed by three physicians in consultation. Dr. J. Madison Taylor suggested that this latter condition might have been due to peritoneal eruptions which were first described by an Italian surgeon in 1896. Dr. McKee pointed out the clear symptoms of appendicitis and did not think Dr. Taylor's suggestion was possible in the case under discussion. Dr. Massey called attention to a case of anterior poliomyelitis following measles and Dr. Taylor to the not infrequent occurrence of this affection as a sequel.

The annual business meeting of the Medical Club of Philadelphia, was held Thursday evening, January 12th, at the Bellevue Hotel. James M. Anders was elected president, Charles Burr, 1st vice-president; George E. De Schweinitz, 2d vice-president; Guy Hinsdale, secretary; John Lock, treasurer (re-elected). Wilmer Krusen, H. Augustus Wilson, G. G. Davis and Ernest La Place were elected as additional members of the executive committee. After the election supper was served during which Dr. Burr paid tribute to the memory of the late Dr. Pepper and other speeches were made by Drs. Anders, Hare, Minnick, and Lemuel J. Deal.

The annual election of the Alumni Association of the Medico-Chirurgical College was held on Saturday, resulting as follows: President, Henry Fisher; secretary, George W. Pfromm; treasurer, E. S. Gans. An executive committee was also elected which varies little from that of last year.

Having learned that the Chester Hospital had an indebtedness of $4500, Samuel A. Crozer sent his cheque for that amount to the treasurer last week. St. Timothy's Hospital at Roxborough was also the recipient of a gift last week of $5000 for a free bed, from Miss Jennie Schofield and Mrs. John Dearnley in memory of their father, Uriah Schofield.

Major D. C. Payton, who has had charge on behalf of the Government of the hospital care of soldiers in Pennsylvania, has been offered a professorship in the Medico-Chirurgical College, the Chair to bear the title of Military and Naval Surgery. Dr. F. S. Bowman has been appointed Out-Door Physician of the Second Ward by the Board of Charities and Correction.

At the eighth annual meeting of the West Branch Medical Association, held at Williamsport, January 10th, Philadelphia was represented by Drs. W. M. L. Coplin, S. MacCuen Smith, and Ernest LaPlace. E. O. Kane, was elected president; J. W. Albright, vice-president; J. M. Corson, secretary, and G. F. Bell, treasurer. Arthur E. Bate, a graduate of Jefferson Medical College, died last week aged forty-six years. William S. Frick, a graduate of the same college, died on Saturday last, aged seventy-two.

The total number of deaths occurring in Philadelphia for the week ending January 14th, as reported at the Health Office, was 642, of which number 185 occurred in children under five years of age. The total number of new cases of contagious diseases was 342, reported as follows: Diphtheria, 69 cases, with 25 deaths; scarlet fever, 36 cases, with 5 deaths; typhoid fever, 237 cases, with 22 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE BRITISH ASSOCIATION FOR THE PREVENTION OF CONSUMPTION—ANOTHER DOCTOR BLACKMAILED—THE VACCINIA GERM—THE SENTENCE IMPOSED UPON THE BROTHERS CHIMES, OF BLACKMAIL FAME.

LONDON, January 10, 1899.

THE event of the week has been the great private meeting of the British Association for the Prevention of Consumption, at Marlborough House. I say "private meeting," for although its purpose was publicity and nothing medical has more strikingly attracted the attention of the lay public in many months, yet Marlborough House is the London residence of the Prince of Wales and the Society met there by invitation as his guests. His Royal Highness presided in person and the general eye having been thus skilfully riveted upon the proceedings, Sir William Broadbent made an admirably clear and pointed speech explanatory of the aims and hopes of the Association, if only it could enlist the "man in the street" and his family in their crusade. And in this they really seem to have succeeded this time. It was evidently news of a surprising order to the British public that consumption is a curable disease, and the newspapers have taken it up like a pack in full cry. That astute and energetic organizer, Mr. Malcolm Morris, deserves much credit for the skill with which he and his colleagues suc-

ceeded in securing such a strong cast, an excellent stage, and an admirable time for the presentation of the first public scene of their sanitary drama. Such stars as Lord Salisbury, Lord Rosebery and Mr. Balfour were not only present but did their "turn," and the hit of the meeting was made by the Prince of Wales himself, who in his closing speech announced that Her Majesty herself was already a pioneer in the movement, as she had some months ago ordered the slaughtering of thirty head of valuable Jersey cattle at the Home Farm, Windsor, because they reacted to tuberculin. This certainly was a very progressive thing in an old lady of nearly eighty, and English at that, but it borders upon the ridiculous for all the daily papers to piously refer to it as "Her Majesty's sacrifice for science!" Did they expect Her Serenity to go on drinking tuberculous milk, or to sell the diseased cattle for beef?

Anyhow the meeting scored a great success. One sanatorium where wage-earners and clerks can be treated at nominal rates is announced already and more will soon follow, and what is even better the dear people seem to have got a clear idea that consumption is contagious and a notion to guard against its spread.

These be troublous times for doctors of various sorts. First, for the abortionists, who deserve it, but since that time the fancy for suing seems to have spread. Nearly a dozen of our much harried brethren have been before the courts during the past few weeks. Two cases are of some interest, one on account of its rarity, the other as a specially contagious form of a very common annoyance. The latter was the case of a Dr. Wallace, who was arrested upon the old familar blackmail charge of seducing a patient and then producing an abortion to cover the crime. Absolutely the only "evidence" presented at the trial was that the plaintiff had gone to the doctor's office a number of times to be treated for a uterine displacement, with the ultimate result that after a sitting at which the sound was introduced into the cervix, an abortion at about the third month occurred. The patient was sure that the doctor must have "drugged" her or that she had fainted away, but could not tell upon what visit this had occurred, or recall any of the circumstances attending it. Furthermore, her mother testified that Dr. Wallace having been called in haste to the house, found that an abortion had occurred, and had exclaimed, "And I'm afraid it was my fault," which the old harpy neatly and artistically ornamented with the trifling addition, "I could not resist the temptation!" And upon this trashy excuse for a case the doctor was publicly accused of a revolting betrayal of confidence, arrested and held for some time while the sapient Dogberry, before whom he was brought was deliberating how he should be admitted to bail, all because he was a doctor and as such at the mercy of any female shark who chose to consult him professionally. Fortunately, the case was tried before a strong and competent judge who promptly dismissed it at the close of the plaintiff's evidence as, if it had gone before a jury, there's no telling what the result might have been.

The other case was, to say the least, unusual. A physician was ordered by the coroner to make a post-mortem examination of the body of a child which had died rather suddenly. He did so, and testified at the inquest that the child died of congestion of the brain, whereupon the coroner, Mr. Braxton Hicks (he who took Sir James Crichton-Browne so severely to task for revealing the advantages of ptomain and toxins as poisons to the criminal public) produced two other doctors who at his request had made a second post-mortem. They testified that death had been due to pneumonia, and that the skull had not been opened by the previous examiner. Then Mr. Hicks, who considered that the majesty of the British Constitution had been insulted in the person of one of its principal pillars, himself, promptly committed the first doctor on a charge of perjury. But the unfeeling judge before whom the charge was tried promptly dismissed it, apparently upon the curious and rather inadequate ground that it was simply a case of the famous "doctors disagree," but really as a rebuke to the officiousness of the coroner in setting traps for witnesses. He reduced the magnificent Mr. Hicks to a state of speechless fury by remarking that the proceedings of his coroner's court reminded him more of a performance upon the comic operatic stage than of a real court of law.

The death of Professor Kanthack, the well-known pathologist of Cambridge, is widely regretted. He was still a comparatively young man, having held his professorship barely a year and a brilliant future seemed to lie before him.

The newspapers are full of the reported discovery of the vaccinia germ by Mr. Stanley Kent of St. Thomas' Hospital, and several enterprising reporters have interviewed the discoverer and made lovely hash of his scientific descriptions of the process. The episode has of course roused the ire of the "antis" who cannot bear to see any aspect of the vaccination infamy attracting the interest of the public away from themselves and their brass band, and they are rushing into print with letters triumphantly pointing out how abominable a thing glycerin-lymph *must* be when even the conscienceless and ruthless doctors are seeking a substitute for it!

Christmas week was most appropriately signalized medically by the magnificent donation of $1,250,000 by Lord Iveagh to the Jenner Institute of Preventive Medicine. The bulk of this sum is to be devoted to the equipping of laboratories and furnishing of grants for research in bacteriology and other biologic sciences auxiliary to medicine. Fellowships both resident and traveling will also be established.

The late meeting of the Pathological Society was chiefly taken up with the presentation of some new methods of blood-staining by Mr. Pakes illustrated by a large number of specimen-slides and also slides showing the hematozoon of black-water fever of which so much has been heard of late. This Messrs. Pakes and Cross regard as an aberrant form of malaria and pointed out that the absence of the parasite from the peripheral blood by no means disproves its presence in the central organs of the body. This was confirmed in the discussion by two members who had had experience in the tropics and who pointed out that in the so-called cerebral form of malaria, no or-

ganisms might be discovered in the surface-blood, and yet after death the capillaries of the brain be found packed with them. Some of these cases in fact were so intensely cerebral in character that it was difficult to distinguish them from apoplexy. The same condition of affairs would be also found in "intestinal" malaria which presents almost the exact symptoms of cholera.

The sentence of twelve years "hard" upon two of the Chimes brothers of "Lady Montrose Female Tablets" fame and seven years upon the other, is regarded as not a whit too severe. But no one has ventured to suggest that the women who "bit" are to be even blamed in any way for their share in the intended abortions.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

VALUE OF PRESSURE IN A SURGICAL DRESSING—SEPARATION OF THE LOWER EPIPHYSIS OF THE FEMUR, NEW TREATMENT—SYPHILIS FROM DRIED VIRUS—PANCREATIC CALCULI—PANCREATITIS SET UP BY THE COLON BACILLUS—DOUBLE VAGINA AND SEPTATE UTERUS—EFFECTS OF FREQUENT AND INFREQUENT FEEDINGS.

AT the Medical Society, November 28th, GOULD opened a discussion on the value of pressure in the treatment of wounds. The importance of securing asepsis has directed the attention of surgeons away from other points in the treatment of wounds, and a routine is apt to be thoughtlessly followed. The maintenance of one position for days, for instance, is not at all according to the wont of Nature. He also held that pressure is largely ineffectual for the purposes for which it is employed, that it is sometimes mischievous, and that it can be well and safely dispensed with. Pressure is usually employed to secure apposition of the edges of the wound, to prevent oozing, to lessen serous exudation, to prevent bagging of fluid, to retain muscular contraction, or to prevent the yielding of cicatrices. But for some time past he had abandoned the use of pressure for these purposes and the wounds had healed better and the comfort of the patients had been promoted. For pressure is not always harmless, and without due care may cause sloughing where there is a large flap, as after removal of the mamma. He had also been struck with its inutility in certain cases, as when the edges united but fluid collected beneath the flap. Pressure did not prevent its reaccumulation, but the insertion of a drainage-tube removed the difficulty at once. Pressure need not be resorted to even after such operations as excision of the mamma. Again after laparotomy for removal of large ovarian cysts or for hysterectomy a simple collodion dressing over the wound is better than the mountains of cotton wool and firm bandage which are still largely used. What surgeons have been in the habit of attributing to their therapeutical measures has been the result of Nature's kindly offices.

DORAN said that five years ago he left off strapping the abdominal wall and simply applied a many-tailed bandage. Later he had used scarcely any pressure, but recently he had returned to its use, as it seemed to him that firm pressure favors the expulsion of flatus, encourages the intestinal movements, and hinders the formation of adhesions. The bandage should compress the abdomen as high as the epigastrium or the gas is likely to be imprisoned in the transverse colon.

SHEILD said that while he agreed with much that the reader of the paper had said he still thought that pressure is desirable after certain operations, such as removal of the mamma, and inguinal colotomy—in the latter instance to prevent extrusion of the viscera should there be severe vomiting. He had seen amputation wounds heal without any dressing, and had been struck with the ease with which the process was accomplished.

BEALE admitted the evil effects of pressure in certain circumstances, notably after excision of joints, in which the healing is distinctly interfered with by the pressure.

At the session of December 12th PITTS read an account of two cases in which he had ligated the iliac arteries. In the former of these he ligated the internal iliac for a pulsating tumor of the buttock, either an aneurism or a sarcoma. The affection proved to be the latter and the patient died from extension of the trouble about a year after operation. In the second case the common iliac artery was ligated on account of repeated hemorrhage from a sinus which had existed a long time, and which was of rather doubtful tubercular origin. The operation was the means of healing the sinus. In both of these patients the incision was made in the median line, the intestines were held up out of the way, and the posterior peritoneum was divided. The common iliac was followed downward until its division was found.

At the Clinical Society, December 9th, the discussion turned on the possibility of syphilis being contracted from dried virus. WILLIAMS presented a report of a case in which a primary lesion formed on the tongue of the owner of a set of bagpipes. The pipes had been loaned to a syphilitic subject and then put away for two months, after which they were played on by the owner, and three weeks later the sore on the tongue appeared. Other more-direct sources of contagion were carefully eliminated.

LUCAS said that there is no more improbability in the preservation of activity of dried syphilitic virus than of dried vaccine virus upon an old ivory-point.

GOULD read a paper on a case of pancreatic calculi, one of which obstructed the bile-duct. The patient was a man, aged forty-six years, who, after a six-months' illness, marked by jaundice and umbilical pain, submitted himself to an operation. The liver was greatly enlarged and the gall-bladder distended. An incision was made over the latter and eight ounces of fluid aspirated. Several calculi were found in the duct of Wirsung and were removed by cutting down upon them. The jaundice and pain were not relieved and three weeks later the abdomen was again opened and a large calculus in the head of the pancreas so situated as to obstruct the flow of bile into the duodenum was removed. The jaundice was relieved but the patient died twelve days later. Small abscesses behind the gall-bladder and behind the ascending colon were found at autopsy.

KELLOCK mentioned a similar case, marked by jaundice

and great pain. After a rigor the patient became less jaundiced and a small calculus was found in the stools. The patient gradually sank from exhaustion. There was another calculus the size of a cherry-pit in a dilated portion of the duct in the head of the pancreas.

FRIPP and BRYANT related the facts in a case of acute hemorrhagic pancreatitis. A man, aged forty-two years, was seized with sudden abdominal pain and two days later was in profound collapse. The abdomen was opened but no obstruction was found. Two days later the patient died. The autopsy showed extensive fat necrosis in the omentum, in the fat around the pancreas, and in the subperitoneal fat, both parietal and visceral. The pancreas itself was twice its normal size and was purplish in color. There were numerous hemorrhages in the fat around it. Sections of the pancreas showed rod-shaped bacilli in the blood throughout the organ but none in the ducts. Cultures grew into colonies of pure coli bacilli. It appeared to be a primary acute interstitial inflammation associated with the presence of the colon bacillus and marked by extensive hemorrhage and by secondary necrosis and inflammation of the parenchyma in the immediate vicinity of areas of fat necrosis. The distribution of the bacilli suggested the blood-vessels as the probable channel of infection.

At the Liverpool Medical Institution, December 8th, LARKIN showed a specimen of double vagina and septate uterus obtained from a woman, aged forty-five years, who died from sarcoma of the lumbar spine. She had had three natural labors and in none of them was the abnormality apparently detected. It did not cause her inconvenience in any way. The vaginal septum was thick and fleshy and the two vaginæ were of equal size. There was an os uteri on each side. The uterus was not bicornate but was divided by a thick septum.

At the Bradford Medico-Chirurgical Society, November 15th, RABAGLIATI read a paper on some effects of frequent and infrequent feeding. He believed that with few exceptions the cause of all the illnesses he had seen for thirty years was too frequent and too abundant feeding. He thought that Ranke's estimate of the food required by an adult per day was sufficiently large, *viz.*, 100 grams of proteids, 100 grams of fats, and 250 grams of carbohydrates, in all about 1 pound avoirdupois of mixed food. He said that three pounds of food a day frequently produces starvation due to over-repletion. He quoted a case of chronic vomiting in a man, aged forty-seven years, who suffered from chronic gastritis, who had been treated by all kinds of gastric tonics and sedatives and by gastric lavage without benefit. He suggested a long fast to the patient. The patient's temperature under the tongue was 96° F. and at the commencement of the fast his weight was 130½ pounds. During the first week the patient took only water, about a pint a day. During the eighth and ninth days he had, besides water, the whey from a pint of milk, the curds being separated by means of rennet. After the ninth day he had a daily allowance of whey from two pints of milk, no restriction being put on him as to water, which he took either hot or cold as he fancied. He never vomited or felt as if he would vomit after beginning treatment on September 1st till the fast ended on October 6th, neither has he vomited since. At the end of the fast his pulse was 65, soft, steady, and regular, and his temperature 98.4° F. He was up and about the whole time, helping his wife with light domestic duties. His weight at the end of the fast was 117½ pounds; the loss of weight therefore was 13½ pounds, or an average of 6 ounces daily during the fast. Since the fast he had been eating ordinary food twice daily, taking a total weight of from 12 to 16 ounces each day.

SELECTED ARTICLE.

LEPROSY IN THE HAWAIIAN ISLANDS.[1]

BY D. A. CARMICHAEL, M.D.,
UNITED STATES MARINE HOSPITAL SERVICE.

Origin.—A number of statements are made relative to the introduction of leprosy into the Sandwich or Hawaiian Islands. Some contend that the disease was brought by the natives themselves, who are an offshoot of the great Polynesian race, the Mahori branch, that inhabit the islands that lie to the south and west. It has existed for ages in the islands of Malaysia and in Java and other islands of the great archipelago. Mr. R. W. Meyer, for many years agent of the Hawaiian Board of Health at the leper settlement on Molokai, in his report for 1886, states that he arrived at the islands in 1850, that in 1857 he first heard of the appearance of leprosy among the natives, and that in 1859 or 1860 he saw the first case of leprosy in a young native who died from it in less than three years. The young man's mother took care of him, and, probably in 1868, she showed signs of leprosy, and died a leper at the settlement. The Chinese generally get the credit for its introduction, although this is denied by many observers, and it is a singular fact that few Chinese on these islands have the disease in comparison with the large number of cases which have occurred among the native Hawaiians.

Leper Settlement on Molokai.—In September, 1864, the spit of land on the northern or windward side of the island of Molokai was chosen as a suitable site for the establishment of a settlement for the segregation of lepers. The site is probably one of the most suitable and isolated that could have been chosen for such a purpose. It is surrounded on the north, east, and west by the sea, and the base or southern side is placed beneath a steep pali or precipice, from 1800 to 2000 feet high, which discourages communication with the rest of the island. The first settlement was at Kalawao on the eastern side of the spit of land. It lies in close to the mountains at the rear and is much exposed to the northeast trade winds. Kalaupapa, the more recent and larger settlement, is situated on the plain to the westward, is further removed from the steep cliffs, and is somewhat protected from northwest winds by the crater of Kahukoo. One and three-quarter miles seaward of Kalaupapa is the small village of Ilioki, and midway between Kalaupapa and Ka-

[1] Abstract from the Public Health Reports to the Supervising Surgeon-General, United States Marine Hospital Service, December 30, 1898.

lawao and close in to the base of the mountain is the village of Makanaupapa, both included in the leper settlement. Water is supplied from the Waikolu Valley and piped from thence to the settlements. Storage reservoirs are placed at different points as a reserve in case of accident to the main supply.

The lepers are supplied with a liberal ration by the Government, which for one week comprises the following: Beef, 7 pounds; salmon, 5 pounds; fresh fish, 7 pounds; pai-ai, 1 bundle, 21 pounds net (a native food prepared from the root of the colocasia esculenta, often written "poi"); rice, 9 pounds, with 1 pound of sugar; bread, 8½ pounds, with 1 pound of sugar; flour 12 pounds, with 1 pound of sugar. Children born at the settlement, of leprous parents, receive one-half of the above ration. Monthly rations are also issued of soap, salt, matches, and kerosene oil. Each leper, outside the homes, receives a clothes ration order of the value of $5 every six months, on the 1st of January and July in each year. Many of the lepers have friends outside who supply them with clothes and money. The cost of the settlement to the Government is about $67,000 per year, and the amount expended for segregation and transportation of lepers and maintenance of the receiving station at Kalihi amounts to about $16,640 per annum.

The following table showing the number of lepers at the settlement on Molokai, mortality, and the number on the books at the end of each ten years from 1864, and estimated from the report of the Board of Health for the period ended December 31, 1897, is given below:

Year.	Admissions.	Deaths.	Discharged or unaccounted for.	Number on the books Dec. 31.
1864	141	26	10	105
1874	91	161	8	671
1884	108	168	8	717
1894	128	155	3	1124
1897	124	139	.....	1100

Spread of the Disease.—From 1849 to 1865 no measures were adopted by the Hawaiian authorities for the suppression of leprosy. The intimate living habits of the natives, using the same sleeping mats, clothing, pipes, eating from the same dishes, bad hygienic surroundings, and, above all, a tolerance of the leper—that is, he was treated as a member of the family and never as an outcast—are given as some of the causes aiding in its spread.

In 1852–53 an epidemic of smallpox invaded the Hawaiian Islands and more than 5000 died. Vaccination of the people resorted to during and subsequent to this epidemic is said to have aided in the dissemination of leprosy. The vaccinations, according to competent observers, were made from arm to arm, with humanized virus, and frequently the pulverized scab selected without much care. The vaccinations were done by planters, missionaries, and the natives, owing to the limited number of physicians available. The general opinion among leprologists is that vaccination had little to do with the spread of leprosy; that the disease was not common in those years, and that there was no marked increase in the number of cases, within the usual period of incubation, subsequent to the epidemic of smallpox.

During the residence of Dr. E. Arning here as a specialist to investigate leprosy for the Hawaiian Government an interesting experiment bearing on this subject was performed by him. In 1885 he vaccinated a number of lepers. The vaccination took in 3 cases, 1 tubercular and 2 anesthetic. Both the lymph and crust of the tubercular case contained the bacillus of leprosy, but he could not detect it in the anesthetic cases. Nonhumanized virus has been used in the islands since 1888 and precludes the possibility of transmitting leprosy by vaccination.

Dr. Arning also performed his now celebrated experiment bearing on the direct inoculation of leprosy. By consent of the Government and a condemned criminal named Kenan, whose sentence was commuted to imprisonment for life, Dr. Arning, on September 30, 1884, excised a leprous tubercle from the arm of a pronounced eper and transplanted it to the exterior surface of the left forearm of Kenan. He was confined and kept under daily observation for the four weeks following, and after that once a week for several months, a microscopic examination of the inoculation spot being made each time. After this he was examined regularly once or twice a month. The microscope revealed the presence of the bacillus lepræ in large numbers until the middle of March, 1885. They then diminished in numbers but were present in the scab fourteen months after inoculation. At this time there was nothing in his appearance indicative of leprosy. Pains in the elbow and wrist of the inoculated arm, which existed in 1885, four or five months after inoculation, soon disappeared. There was no marked change in the condition of Kenan until March, 1887 (two and a half years after inoculation). Dr. Brodie, the prison physician, then noticed changes in the right ear and coppery looking spots on the right cheek. In December, 1887, he was examined by Dr. Arthur Morritz and his description given as follows: "General health good; no pain; slight unhealthy wound on palmar aspect of left index-finger is the only abrasion of the skin. Covering the chest, arms, abdomen, and especially the back, is a copper-colored eruption raised above the surrounding skin and giving to the touch a distinct feeling of thickening. The size of the spots vary from a 10-cent piece to half a dollar, and present shapes round, oval, and serpiginous. The backs of the legs and thighs are affected, and on the front of the knees and thighs are serpiginous patches and small plaques. The right cheek, forehead, and right ear are infiltrated with leprous deposit. Eyebrows show no sign of diminution. The ulnar and popliteal nerves are thickened. Kenan was afterward removed to Molokai and died there. This experiment of Dr. Arning was widely accepted as proof of the inoculability of leprosy, but Mr. R. W. Meyer, for many years superintendent of the settlement of Molokai, states there were lepers in Kenan's family. His mother-in-law, Pulu, died of leprosy in July, 1891, and Kenan's own son, Josepha, was at the leper settlement long before Kenan

himself became a leper, and died there in December, 1893. Kenan's nephew, David, a son of Kenan's sister, also died of leprosy at the settlement in July, 1890."

Other Modes of Communication.—Kissing, nose-rubbing, cohabitation, reception of the secretions from lepers on abrasions of the surface of the skin or by inhalation, deglutition, or transmission by insects. In many of the tubercular cases and some of the anesthetic variety, the lips, cheeks, tongue, arches of the palate and nose are the seat of numerous leprous ulcers, and it is claimed that they also exist in the intestines. The bacilli are readily given off from these ulcers, and it is said can be communicated when a suitable soil is presented, such as abrasions of the skin and mucous membrane, catarrhal conditions, etc.

The natives eat poi, or pai-ai, from the same dish with the fingers, and a leper in the circle with digital leprous ulcers might convey it to the others. The opinion prevails in Hawaii that the disease is not communicated by cohabitation with lepers, but leprologists admit that in the early stages of the disease, when it is not well defined on the surface of the body, leprous patches may be present on the genitals and given an abrasion or suitable soil it is reasonable to infer that transmission in this manner is not impossible.

It is suspected that certain insects play a part in the transmission of leprosy, the common house fly, mosquito, and bedbug being the principal carriers of the infection. The house fly is now prominent as a disseminator of typhoid fever and septic affections, and it is not difficult to imagine that an active part can be taken by this insect in the spread of leprosy, particularly where they can pass from open leprous ulcers to other individuals who may present a suitable soil for the reception of the bacillus. I am not aware that any bacteriological investigations have been made in this matter relative to the house fly. The mosquito is also considered as the disseminator of certain diseases, and some light has been thrown on the influence it may have on the transmission of leprosy by Dr. L. F. Alvarez, the leprologist of the Hawaiian Government. He allowed mosquitoes to alight on the open sores of lepers, and when they had feasted themselves they were captured, killed, and stained preparations made from their crushed bodies contained leprous bacilli in large numbers. Mosquitoes are present in the Hawaiian Islands throughout the entire year. Until the life history of the bacillus lepræ is worked out and isolated cultures obtained, the powers of resistance of the organism to external agencies will remain unknown, but it is believed to be very resistant, and it may exist in a spore condition in the soil, on clothing or other fomites and on the surface of various articles.

Immunity.—All persons are not susceptible to leprosy, and most of the white race seem to have a certain immunity, and if the disease can be conveyed by cohabitation the white sailor seems secure. Many women have lived in intimate relation with leprous husbands and husbands with leprous wives, and failed to contract the disease. A number of the kokuas or helpers on Molokai have lived among and associated with lepers for years and escaped. Bearing on this question, Dr. A. Morrits says: "The washwoman for the hospital at Kalawao has washed the soiled clothes of lepers, the worst cases, for seventeen years, she had lepers living in her house, and her two husbands were lepers for years before they died, and yet in spite of all this contact this woman is hale, hearty, and plump, and as fine a specimen of womanhood as any in the island."

Heredity.—At one time much importance was attached to the theory of heredity in this place but in the light of the present day it is considered an exploded theory. A person has only to visit the Kapiolani Home at Kalihi and see the healthy female children born in the settlement of leprous parents (one or both lepers), and ranging in age from three to twenty years, to be convinced that there is little in the theory of heredity. In contrast with this and an additional argument in favor of contagion is the fact that if these children, born of leprous parents, and without a blemish, be left with their parents and associate with lepers they contract the disease.

Medical Treatment.—The Hawaiian Government with a liberality which is deserving of high praise, has made every effort to employ different measures vaunted as cures for leprosy. Their own physicians have tried many remedies, and in 1883 Dr. Edward Arning of Switzerland was induced to come to Hawaii and serve the Government as a specialist to investigate the subject of leprosy. He accomplished much in the line of investigation, but little relative to curative treatment. He resigned in 1889, and was succeeded in the same year by Dr. A. Lutz of San Paulo, Brazil, a pupil of Dr. Unna of Hamburg.

Under the influence of good food, improved hygienic surroundings, and treatment of a tonic nature the disease improves and sometimes is arrested, in a manner similar to cases of tuberculosis, but the tendency to relapse is great and the cases of aborted leprosy are not numerous. Among the medicinal remedies most valued here are sodium salicylate, salol, creosote, gurgun and chalamoogra oils, pyrogallic acid, crysarobin, ichthyol, lysol, and mercurials in cases associated with syphilis. Dr. Alvarez has tried a bouillon prepared from a culture of the bacillus prodigiosus used as an injection once daily, beginning with 12 c.c. and increasing gradually until 80 c. c. were used. This was tried on 12 leper boys brought from the settlement at Molokai, and the experiments extended over a period of three months. At the end of the period the boys were examined by the medical board and two of them declared free from leprosy and returned to their homes. Another showed marked improvement, but the condition of the others was not changed. He also tried thymus and thyroid-gland extract and dry powder. The result was negative in the case of thymus, but from the thyroid gland were satisfactory. He has also tried the serum of Dr. Carrasquilla of Bogota, Columbia. Temporary improvement in all and marked benefit in one case resulted, which continued for six weeks, "the tubercles which had covered his face, ears, and chest had, with very few exceptions, disappeared entirely." Baths of various kinds, including the Goto system have also been tried. They are all beneficial, but not curative.

Precautions Necessary to Prevent the Introduction of Leprosy into the United States from the Hawaiian Islands.—The period of incubation in leprosy is so long and variable, from three to seven or ten years, its detection in the early stages so difficult, and the fact that leprous patches may first appear on the unexposed parts of the body, such as the upper parts of the arms, chest, back, and nates, and that leprous ulcers may be present in the upper part of the nasal passages, makes its detection by ordinary quarantine methods uncertain. In pronounced cases detection is easy, but these rarely emigrate and the greatest difficulty would be met with in the slight cases occurring in the white or mixed races. The native Hawaiian rarely emigrates, and those who leave their homes generally go as sailors, although I have been informed that there is a small colony of Hawaiians in Salt Lake, Utah. It is possible for persons with leprosy undeveloped, and for the slighter cases, to pass from one country to another without detection, and the fact of its presence in various parts of the United States is evidence that quarantine restrictions do not exclude it. Few medical men are familiar with the appearance of leprosy in its early stages, and cases are often diagnosed as other skin diseases, and the fact that skin diseases, such as psoriasis, various forms of tarina, chloasma, scabies, erythema, etc., are often associated with leprosy, makes its detection still more difficult.

Restrictive measures should be adopted to control the departure of all emigrants from endemic foci of leprosy at the point of departure, and these should consist of a careful inquiry into the family and sanitary history of each emigrant, a rigid physical examination and disinfection of his effects. Similar procedures at the port of arrival should be adopted and a record of the destination of the emigrant preserved. Adoption of the above-named measures would restrict the importation of the disease so far as it is possible to do so, but such proceedings could be still further aided by the Government of the United States assuming control of measures for the suppression of leprosy in the possessions recently acquired by annexation and by conquest, *viz.*, the Hawaiian and Philippine Islands and the island of Cuba, in all of which leprosy exists to a greater or less extent.

REVIEWS.

A Clinical Manual of Mental Diseases. By A. Campbell Clark, M.D., F.F.P.S.G. New York: William Wood & Company, 1898.

The very numerous text-books on insanity from American, English, and German sources which have appeared within the past five years were apparently considered by the publishers of this manual as insufficient for the needs of the profession, or as scientifically inadequate to reveal to medical men the status of psychiatrical science. When a publishing firm undertakes the issuance of a scientific work it should do so with some show of reason. That this book demonstrates such a reasonable motive may be doubted, for it is scientifically inadequate in all the departments of psychiatrical science. If any department of psychiatry is well exploited, it is the clinical, and of clinical pictures of the various forms of mental disease we have in literature not only more than enough, but all, without exception, the equal, if not the superior, to those of this manual. The work is primitive and of little scientific value.

THERAPEUTIC HINTS.

For Rhinopharyngitis in Young Children.—A simple procedure for local treatment is recommended by Gaston, *viz.*, the introduction into the nostrils, three or four times a day, of a cotton tampon rolled to a point, covered with borated vaselin, with or without the addition of an astringent, such as the following:

℞	Antipyrini	gr. viii–xvi
	Acidi borici	gr. vi
	Vaselini	ʒ v.

M. Ft. ungt. Sig. External use.

If the child greatly objects to the tampons, one or two drops of the following mixture should be instilled into each nostril night and morning:

℞	Menthol	gr. viii
	Ol. amygdalæ dulcis	ʒ i.

M. Sig. External use.

If direct treatment of the pharynx seems indicated, it may be swabbed with iodin in glycerin, equal parts, or with the following mixture:

℞	Iodi	gr. vi
	Potassii iodi	gr. xxx
	Ol. menth. pip.	gtt. iv
	Glycerini	ʒ v.

M. Sig. External use.

For Pruritus of the Vulva, in pregnancy, ichthyol, in the form of ointment (fifteen per cent.) or watery solution (ten per cent.) has been found to effect a cure after all other means of treatment, such as antiseptic douches, lotions, and ointments have been tried without success.—*Doisy.*

An Agreeable Antiseptic Dentrifrice.—

℞	Salol	gr. xlv
	Ol. anisi, Ol. geranii } aa	m. viii
	Ol. menthæ pip.	m. xv
	Spiritus	ʒ v.

M. Sig. Dentifrice.—*Nogué.*

Administration of Opium to Children.—The wine of opium is mentioned by Nogué as a suitable preparation in the following doses:

Up to 6 months	½ drop
From 6 months to 1 year . .	1 drop
From 1 year to 2 years . .	2 drops.

Increase one drop per year of age. These doses may be repeated half-hourly when indicated.

Wine of opium may also be given in an enema, 2 or 3 ounces of a suitable vehicle being employed, in doses as follows:

From 1 to 2 years . .	1 to 3 drops
" 3 to 5 " . .	5 to 10 "
" 5 to 10 " . .	10 to 30 "

Excellent Therapeutic Suggestions

An Excellent Remedy for Persistent Coughs

That Codeine had an especial effect in cases of nervous coughs, and that it was capable of controlling excessive coughing in various lung affections, was noted before its true physiological action was understood. Later it was clear that its power as a nervous calmative was due, as Bartholow says, to its special action on the pneumogastric nerve.

Codeine stands apart from the rest of its group, in that it does not arrest secretion in the respiratory and intestinal tracts. In marked contrast is it in this respect to morphine. Morphine dries the mucous membrane of the respiratory tract to such a degree that the condition is often made worse by its use; while its effect on the intestinal tract is to produce constipation. There are none of these disagreeable effects attending the use of Codeine.

Antikamnia has stood the test of thorough experimental work, both in the laboratory and in actual practice; and is now generally accepted as the safest and surest of the coal-tar products.

"Antikamnia and Codeine Tablets," each containing 4½ grains of Antikamnia and ¼ grain Sulph. Codeine afford a very desirable mode of exhibiting these two valuable drugs. The proportions are those most frequently indicated in the various neuroses of the throat, as well as the coughs incident to lung affections.

The Sensible Treatment of La Grippe

The following suggestions for the treatment of La Grippe will not be amiss at this time when there seems to be a prevalence of it and its allied complaints. The patient is usually seen when the fever is present, as the chill, which occasionally ushers in the disease, has generally passed away. First of all the bowels should be opened freely by some saline draught. For the severe headache, pain and general soreness give a five grain Antikamnia Tablet, crushed, taken with a little whiskey, water or wine, or if the pain is very severe, two tablets should be given. Repeat every two or three hours as required. Often a single ten grain dose is followed with almost complete relief. If, after the fever has subsided, the pain, muscular soreness and nervousness continue, the most desirable medicine to relieve these and to meet the indication for a tonic, are Antikamnia and Quinine Tablets, each containing 2½ grains Antikamnia and 2½ grains Quinine. One tablet three or four times a day will usually answer every purpose until health is restored. Dr. C. A. Bryce, Editor of "*The Southern Clinic*" has found much benefit to result from five grain Antikamnia and Salol Tablets in the stages of pyrexia and muscular painfulness, and Antikamnia and Codeine Tablets are suggested for the relief of all neuroses of the larynx, bronchial as well as the deep seated coughs, which are so often among the most prominent symptoms. In fact, for the troublesome coughs which so frequently follow or hang on after an attack of influenza, and as a winter remedy in the troublesome conditions of the respiratory tract there is no better relief than one or two Antikamnia and Codeine Tablets slowly dissolved upon the tongue, swallowing the saliva.

Two Reliable Remedies Combined

We meet with many cases in practice suffering intensely from pain, where from an idiosyncrasy or some other reason it is not advisable to give morphine or opium by the mouth, or morphine hypodermically, but frequently these very cases take kindly to codeine, and when assisted by antikamnia its action is all that could be desired.

In the grinding pains which precede and follow labor, and the uterine contractions which often lead to abortion, in tic-douloureux, brachialgia, cardialgia, gastralgia, hepatalgia, nephralgia and dysmenorrhœa, immediate relief is afforded by the use of this combination, and the relief is not merely temporary and palliative, but in very many cases curative. The most available form in which to exhibit these remedies is in Antikamnia and Codeine Tablets, each containing 4½ grains Antikamnia and 1¼ grain Sulph. Codeine.

In pulmonary diseases this tablet is worthy of trial. It is a sedative to the respiratory centers in both acute and chronic disorders of the lungs. Cough, in the vast majority of cases, is promptly and lastingly relieved, and often entirely suppressed. In diseases of the respiratory organs pain and cough are the symptoms which especially call for something to relieve; this combination does this, and in addition controls the violent movements accompanying the cough, and which are so distressing.

Douche in Nasal Catarrh

℞ Antikamnia and Codeine Tablets, No. xxiv.

Sig.—Dissolve six tablets in a pint of tepid water and use one-third as a douche three times a day. Shake well before using.